GLOBAL STATE OF TOBACCO HARM REDUCTION 2024

A SITUATION REPORT

Section One

A GLOBAL PERSPECTIVE

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The Global State of Tobacco Harm Reduction 2024: A Situation Report

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Introduction

Key concepts

Tobacco harm reduction (THR) is a potentially life-saving public health intervention for millions of people worldwide who currently use high-risk tobacco products. It offers people the chance to switch to a range of **safer nicotine products (SNP)** that pose significantly fewer risks to health.

Most people know that using tobacco is harmful to health, and that people use tobacco to consume **nicotine**. It is less well known that nicotine itself does not cause the severe illnesses associated with high-risk tobacco use. Nicotine is a comparatively low-risk drug, but its effects encourage repeated use. This is one of the reasons people find it hard to stop smoking, even when they know it is bad for their health.

The most dangerous way of using nicotine is by burning a cigarette and inhaling the smoke. Burning tobacco releases tar and gases containing thousands of toxins, many of which pose a risk of severe illness, leading to premature death in half of all smokers.

SNP are non-combustible: none of them burn tobacco and some do not contain any tobacco at all. They include **nicotine vapes (e-cigarettes)**, tobacco-free **nicotine pouches**, Swedish-style **snus** (an oral tobacco), many US smokeless (chewing) tobaccos and **heated tobacco products (HTP)**. Many of these products have only been developed in the last 10 – 15 years.

In public health, **harm reduction** reduces health risks by providing people with safer alternative products and/or encouraging less risky behaviours, rather than by banning those products or behaviours. It emerged in the fight against HIV/AIDS in the 1980s and has since developed into a range of evidence-based, humane and cost-effective practices that save countless lives every year.

Harm reduction is a political and social justice issue as well as a public health one. International treaties make it clear that health is a universal right, and the UN has accepted that harm reduction for people who use drugs is part of the right to health. The 1.1 billion people worldwide who smoke have the same right to health as anyone else.

The Global State of Tobacco Harm Reduction

The Global State of Tobacco Harm Reduction (GSTHR) is a multi-component project that provides information and resources on THR for specialist and non-specialist audiences. The GSTHR aims:

- to generate and communicate information and evidence about THR;
- to map the global, regional and national availability, use of and regulatory responses to SNP;
- to provide high quality policy-focused information, critical analyses and resources on THR;
- to foster local development and implementation of THR.

The GSTHR website (https://gsthr.org) provides researchers, academics, policymakers and media with a unique tool to deepen their understanding of THR. Powered by the world's largest THR database, the free-to-access online resource supplies data on the use, availability and regulation of SNP, as well as smoking prevalence and mortality, across over 200 countries and regions.

The GSTHR's publications, including biennial reports such as this, thematic reports and briefing papers, are available in up to 13 languages, making THR concepts accessible to a global audience. The previous biennial reports (2018, 2020, 2022) document the history, development and potential future of THR, otherwise largely overlooked. These three reports therefore provide a valuable insight into the scientific, policy and social evolution of THR, and are a valued resource to those operating and studying this subject area.

All GSTHR publications can be accessed at https://gsthr.org

The previous GSTHR biennial reports

The first GSTHR report, ***No Fire, No Smoke*** (2018), set out the importance of THR in the context of the global smoking epidemic. It documented the growing interest from existing nicotine consumers, the supporting evidence for THR relative to smoking, the range of SNP available and the regulation and controls to which they were subject. ***No Fire, No Smoke*** offered a baseline for the use and regulation of SNP as of 2018.

As global use of SNP increased, it became evident that there was rapidly developing and well-resourced opposition to their use. This reflected both the barriers faced by new innovations across many fields, as well as elements of traditional tobacco control which opposed THR in principle. Delineating this opposition was a key focus of the second report, ***Burning Issues*** (2020), published in English, Chinese, French, Spanish and Russian.

The Right Side of History (2022), the third in the series, was published in English, Chinese and French. The report draws on interviews with consumers, THR advocates, and people both from the tobacco industry and tobacco control. Documenting the failed experiments of the tobacco industry to make a 'safer cigarette', and the technological revolution of the first commercially viable vaping products, ***The Right Side of History*** is the only global report to track the development of SNP over time.

2018

2020

2022

The fourth GSTHR report

This publication, the fourth in the series, takes a new approach, offering a status or situation report for THR in 2024. We assess global progress towards acceptance of the principles of THR, changes in the uptake of SNP, and changes in policy and regulation.

The extent to which SNP are replacing and substituting for combustible tobacco products and risky oral tobaccos is the central theme. Our analysis considers what is driving these changes, how different regulatory environments have developed, and the complex interplay between products, consumers, and policy and regulation.

The report is the result of collaborative work by the GSTHR cluster, supported by the K·A·C technical team. It draws on multiple publicly available sources of information including market data, regulatory regimes, data on the epidemiology of smoking and use of SNP, and the extensive country-based information held in the online GSTHR database. It also draws on information from an extensive network of colleagues globally, built up through the GSTHR's external engagement work. Other sources include academic journals, tobacco policy papers and research, market analyses, government websites, international tobacco control monitoring, mainstream and specialist journalism and social media commentary.

We are also grateful for the time and expertise offered by key individuals who provided information through conversations, email exchanges and the supply of documents.

Report overview

The Global State of Tobacco Harm Reduction 2024: A situation report is a multi-component publication, grouped into two parts, ***A global perspective*** and ***Regional and national insights.*** The extent to which SNP are replacing and substituting for combustible and risky oral tobacco products is the unifying theme.

A global perspective uses the latest evidence and new data projections to report on the current global THR situation and its potential to rapidly reduce the burden of disease and mortality associated with risky tobacco use. Measuring changes in SNP uptake, policy and regulation, it considers how these factors interrelate to support or undermine progress.

Chapter One: The global smoking epidemic and the role of tobacco harm reduction

After two decades of the WHO FCTC, smoking remains the leading cause of non-communicable diseases, disproportionately impacting people living in low- and middle-income countries as well as vulnerable groups elsewhere. THR using SNP could change this.

Chapter Two: The evidence for tobacco harm reduction

THR's path from concept to real-world application, via creative disruption and consumer-led development. We explore the latest large-scale scientific studies on SNP for smoking cessation and comparisons with NRT, and hear from consumers who successfully quit by switching.

Chapter Three: Global progress towards tobacco harm reduction

Are SNP reducing or replacing smoking yet? A look at current evidence, from population-wide studies to seismic shocks on the markets. Are tobacco companies really intent on change? New GSTHR modelling reveals the global number of vapers – and projects lives saved by SNP.

Chapter Four: Global regulation and control

A focus on FCTC COP meetings considers how the WHO's position on SNP developed. But despite the WHO urging prohibition, the global regulatory picture is varied. We reveal what percentage of the world's population can legally access SNP. GSTHR analysis of regulation and a deep dive into tax policies seek best practice options to facilitate THR.

Chapter Five: The challenges to tobacco harm reduction

Obstacles to THR are manifold, and include outright opposition from numerous sources. This fuels media reporting and underpins negative beliefs about SNP among health professionals, the wider public and adults who smoke. They are the ones with the most to lose.

Chapter Six: Conclusions

What does this report tell us about how we can facilitate THR and hasten the end of smoking as fast as possible?

Regional and national insights takes an in-depth look at the status of tobacco use and THR in two regions, alongside an up-to-date assessment of four countries that – in different ways – have enabled THR to drive down smoking rates.

Latin America

Latin America hosts several tobacco-producing nations - and large populations mean high numbers of people who smoke. Consumers can purchase SNP in most countries, but often from unregulated sources. Responses to SNP are shaped by outside influences, despite the efforts of active consumers.

Eastern Europe and Central Asia

With relatively late implementation of tobacco control measures in the post-Soviet era, high rates of smoking and risky oral product use persist across the region. SNP uptake is comparatively low, and recognition of THR virtually non-existent. The current trend towards heavy restrictions or prohibition of SNP risks undermining the potential of THR in the region even further.

Cigarette sales halved: heated tobacco products and the Japanese experience

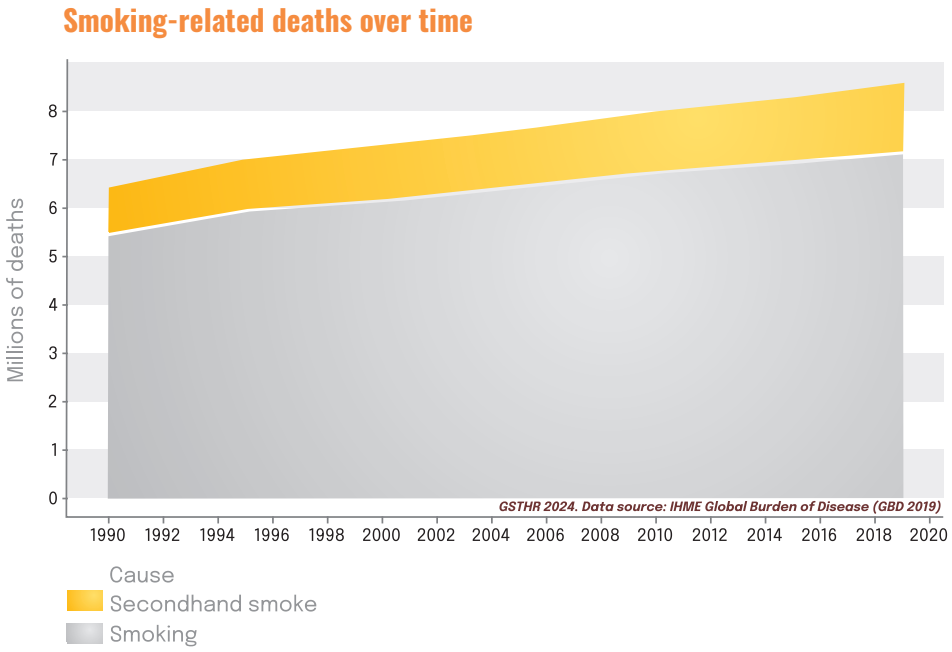
Pro-consumer laws and an endorsement for vaping: why smoking is disappearing in Aotearoa New Zealand

How snus is replacing smoking in Norway: a revolution led by consumers and product innovation

A smokefree UK? How research, policy and vapes have cut smoking rates

Chapter One: The global smoking epidemic and the role of tobacco harm reduction

Statistics on the health impacts of smoking are alarming. There are currently over one billion smokers worldwide, resulting in 8.9 million deaths from smoking-related diseases every year (7.69m from smoking; 1.30m from secondhand smoke). The annual death toll has increased by nearly two million deaths since 1990, likely as a consequence of population growth.



one billion people could die from smoking by the end of this century

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smoking is responsible for around one in six non-communicable disease deaths

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millions of people have not quit smoking [and] are still at risk of serious disease and death

The twentieth century saw an estimated 100 million deaths from smoking, mainly in higher income countries (HIC).[1] Now, around 80% of people who smoke live in low- and middle-income countries (LMIC). Around one billion people could die from smoking by the end of this century.[2] At least half of all those who do not or cannot stop smoking will die prematurely.

Smoking is the primary risk factor for non-communicable disease (NCD) and contributes significantly to the global NCD burden. The annual death toll from smoking-related disease is more than the combined total from infectious diseases such as malaria (630,000), HIV (720,000) and tuberculosis (1.16 million).[3,4] It is also more than all known deaths from COVID, currently at an estimated seven million.[5]

Smoking is responsible for around one in six NCD deaths.[6] It causes cardiovascular disease, lung diseases including cancer, and cancers that affect many other parts of the body. Each year, 17 million people die from a NCD before the age of 70 – with 86% of these premature deaths occurring in LMICs.[7]

As their impact is more keenly felt worldwide, tackling NCDs and their causes has risen up the global public health agenda. The Sustainable Development Goals (SDGs) are a United Nations initiative, formally adopted by the UN General Assembly on 25

September 2015 in a resolution entitled *Transforming our world: the 2030 Agenda for Sustainable Development*. The resolution includes 17 goals and 169 targets, all of which were set to be achieved by 2030. Their aim was to "end poverty, protect the planet, and ensure prosperity for all as part of a new sustainable development agenda". Reducing tobacco use (predominantly by reducing smoking) would be essential if the goals on reducing NCDs were to be achieved by the 2030 deadline.[8] In fact, very few of the SDGs will be.[9]

Smoking prevalence has been falling in most countries over the past two decades, and longer in some HIC. Many countries have witnessed dramatic falls in smoking. However, the graphs are now beginning to level off. There are millions of people who have not quit smoking who are still at risk of serious disease and death.

In at least 60 countries, 30% or more of the male population are current tobacco smokers.[10] In 30 of those countries, that figure is over 40%, and in several it exceeds 50%, with some of those still seeing year-on-year increases.

Data on smoking rates do not include the estimated 300 million people worldwide who use dangerous smokeless products like nasvay, gutka and betel. These products, use of which is concentrated mainly in LMIC in Central, South and Southeast Asia, are implicated in high rates of oral cancer.[11]

Hidden in plain sight?

In HIC, where general population smoking rates have been falling for longer, smoking now tends to impact most dramatically on our most vulnerable and marginalised communities. Those with mental health, drug and alcohol problems, members of the LGBTQ+ communities and indigenous groups as well as those experiencing poverty and deprivation all smoke at far higher rates than general populations.[12]

The concentration of smoking among people of lower socioeconomic backgrounds and other marginalised groups is affecting the debate about the potential of SNP to reduce smoking-related harm. That is because in HIC, the adult smoker – generally poorer, older – is often hidden in plain sight. Meanwhile, concerns about youth vaping are extremely prominent.

In *The American Journal of Public Health in 2021*, David J.K. Balfour, Neal L. Benowitz and colleagues published 'Balancing Consideration of the Risks and Benefits of E-Cigarettes'. What they noted about American society can equally apply in many HIC:

> "To the more privileged members of society, today's smokers may be nearly invisible. Indeed, many affluent, educated US persons may believe the problem of smoking has been largely 'solved'. They do not smoke. Their friends and colleagues do not smoke. There is no smoking in their workplaces nor in the restaurants and bars they frequent. Yet 1 of every 7 US adults remains a smoker today."[13]

Similar perceptions probably apply to medical and public health officials who occupy the same social strata, some of whom perceive the problems smokers face as a situation of their own making. This may partly explain the opposition to tobacco harm reduction from many in the tobacco control community; their approach can be starkly expressed as 'quit or die'.

However, it is at the human level that the real impact of smoking is felt. Many of us have watched a family member or friend dying of lung cancer, or suffering from COPD

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or emphysema, living hooked up to an oxygen machine. Many of us know someone who, once active on the sports field, can hardly manage the stairs without stopping to catch their breath. We may know of families struggling to make ends meet, because the main breadwinner has succumbed to a smoking-related disease. Imagine being the doctor having to tell a middle-aged patient they won't see their grandchildren growing up. Imagine being that patient. The tragic stories of smoking's legacy are global and legion.

The business of tobacco

Despite the undeniable, well-documented, and well-publicised reality of smoking harms, millions of people continue smoking, fuelling a highly profitable global tobacco industry. One firm of market analysts has forecast that global revenue from tobacco products, which has risen year on year for over a decade, will hit one trillion US dollars by 2027.[14]

In some HIC, such as the US, UK and Japan, cigarette sales are in long-term decline. The top multinationals have reacted by increasing their non-combustible portfolios. In July 2024, Philip Morris International reported that smoke-free products accounted for 38.1% of the company's total net revenues, an increase of 2.7 percentage points on the same quarter the previous year.[15]

In December 2023, British American Tobacco (BAT) announced it was writing down the value of its major US combustible brands, Lucky Strike and Newport, by £25bn.[16] It attributed the downrating both to the impact of macroeconomic conditions and the huge popularity of "illicit modern disposables". This indicates that BAT's business is not only suffering because there are fewer smokers. It is also that those same smokers are switching to single-use devices, often obtained through the illegal market – devices that are in competition with BAT's own primary vaping product, Vuse.[17]

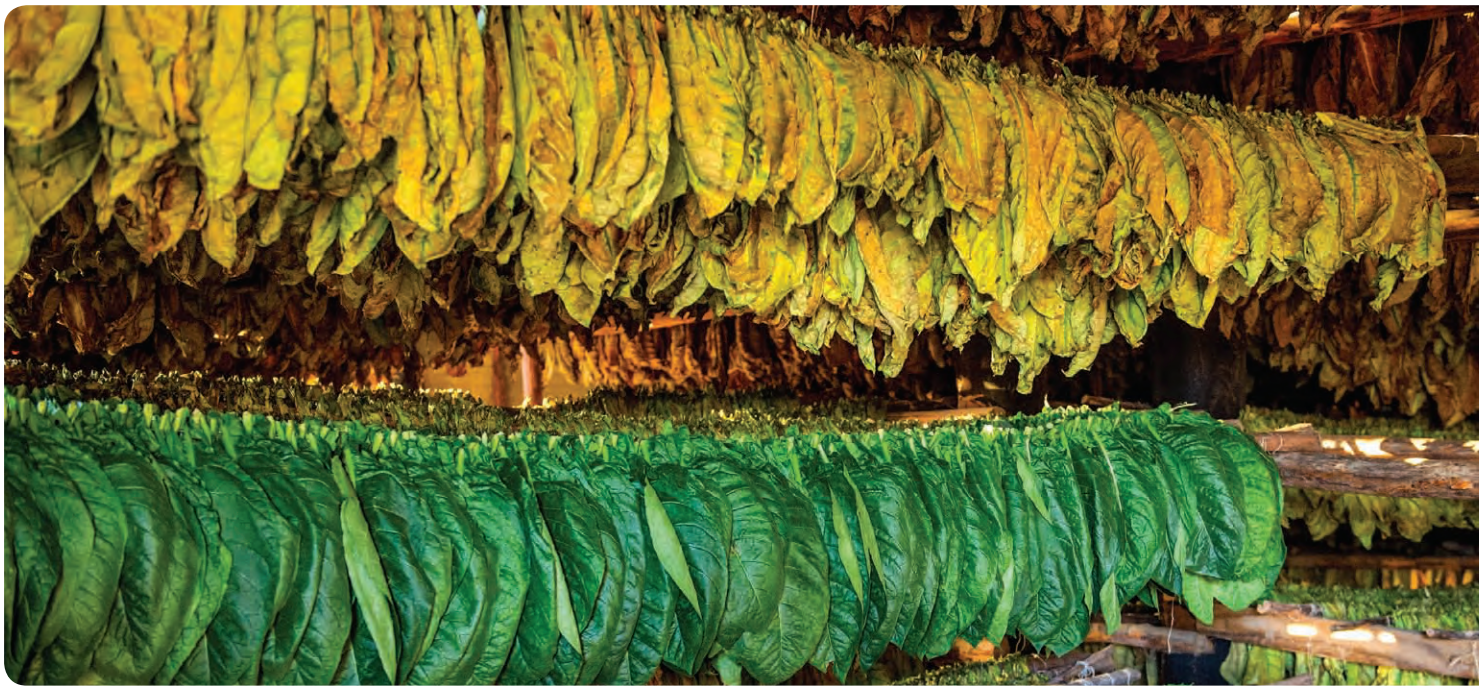
But in reality, for the multinational tobacco companies, the core business remains combustibles. The return on investment is substantial and the profits consequentially massive because the basic product, the cigarette, has hardly changed in a hundred years. It remains a plug of tobacco leaf wrapped up in paper.

Tobacco and the state

Governments around the world have a complicated relationship with tobacco. Many countries benefit from income generated by tobacco production and the numbers gainfully employed by the tobacco industry – and in some, there are even state-owned or state-involved tobacco companies. The vast majority of countries also benefit from the tax revenue generated by tobacco sales. But every country must also contend with the economic impacts of huge numbers of people who are ill, disabled, cannot work or die prematurely due to smoking-related diseases.

About six million metric tons of tobacco are produced each year in some 120 countries, with 80 per cent of production coming from LMICs and 70 per cent from six countries: Brazil, China, India, Indonesia, the United States and Zimbabwe.[18]

According to a report from the International Labour Organization in 2003, around 100 million people are employed worldwide in the tobacco industry. But only about 1.2 million are employed in manufacturing. Some 40 million work in growing and leaf processing, 20 million more in home industries such as hand-rolling bidi or kretek



cigarettes in India and Indonesia, and the rest in tobacco-related processes and industries ranging through distribution and sales.[19] Employment levels within the industry are falling, but still the global tobacco labour market is substantial. This is particularly the case in countries such as India and Indonesia, where millions of otherwise impoverished people rely on the industry for their primary source of income.[20]

Globally, 18 governments have investments of 10% or more in domestic tobacco product manufacture, mainly cigarettes. Eight have a state tobacco monopoly; three more own majority stakes of between 51 – 91% of their domestic industry.[21] The Chinese National Tobacco Company (CNTC) is one such state-owned monopoly, and is the largest manufacturer of cigarettes in the world.

Even if not directly involved in manufacture and sale of tobacco products, governments benefit from their sale through tax regimes. The WHO calculated that in 2018, the duty, or excise tax, paid on cigarettes raised $360 billion USD worldwide, of which $162 billion USD went to governments in LMIC. It's estimated that a further $31 billion USD would be added to the global total if the illegal market in tobacco could be eliminated.[22]

Combining import and domestic taxes on tobacco products, the export revenue from the world's major growing countries, and the income from state-involved or owned tobacco industries, it is clear that tobacco use and production brings huge benefits to the treasuries of most countries in the world. Yet tobacco use also brings major economic costs. The annual health expenditure costs and productivity losses associated with smoking have been calculated at nearly 2% of global gross domestic product: that's a staggering $2 trillion USD.

Nevertheless, many governments have strong financial, political and social drivers towards maintenance of a vigorous trade in tobacco, which seemingly override societal costs. In addition, through official corruption and weak governance, illegal cigarettes dominate the cigarette economy in many LMIC. The tobacco control community argue that raising taxes is the most effective way of decreasing overall consumption. But generally, imposing a strict tax regime only works in HIC, where the legal market in cigarettes predominates and where robust tax enforcement structures exist. In many LMIC, where the illicit market dominates instead, tax policies are inoperable (see also our section on tax in Chapter Four of this report).

Many governments rely on tobacco not just for income, but in some cases political survival. If the state is more concerned with generating revenue than with the health of its population – a state which may well regard smoking-related disease as self-inflicted - what incentive is there for governments to provide comprehensive smoking cessation programmes? To compound the problem, most smokers live in the poorest countries, already burdened with other health priorities, yet without the health infrastructure to cope.

Failing the adult smoker

The complications of economic interests aside, the vast majority of governments do need to put – or at least, be seen to put – the health of their populations first. After the international public health community decided action had to be taken on smoking, eventually over 180 countries committed to doing so.

For much of the 20th century, smoking-related death and disease was largely an issue for higher income countries. The WHO therefore regarded this as a problem for those countries to deal with domestically – as it focused on tackling the deadly communicable diseases affecting LMIC. But a changing global economic climate, as much as a growing public health imperative, highlighted the need for more concerted action at an international level. The growth of a transnational tobacco industry needed to be countered by a transnational agreement on tobacco control.[23]

The WHO Framework Convention on Tobacco Control (FCTC) is the international agreement that was developed in response to the global nature of the public health challenge of tobacco use and smoking.[24] Enacted in 2005, its specific aim is to reduce smoking-related death and disease. The FCTC's guidelines – in the WHO's words – "provide the foundation for countries to implement and manage tobacco control". To oversee the progress of Parties in implementing the FCTC, the WHO introduced a monitoring system in 2007, in partnership with Bloomberg Philanthropies; the MPOWER measures "are intended to assist in the country-level implementation of effective interventions to reduce the demand for tobacco, contained in the WHO FCTC".[25]

MPOWER is an acronym, which stands for:

Monitor tobacco use
Protect people from tobacco smoke;
Offer help to quit tobacco use;
Warn about the dangers of tobacco;
Enforce bans on tobacco advertising, promotion and sponsorship; and
Raise taxes on tobacco.

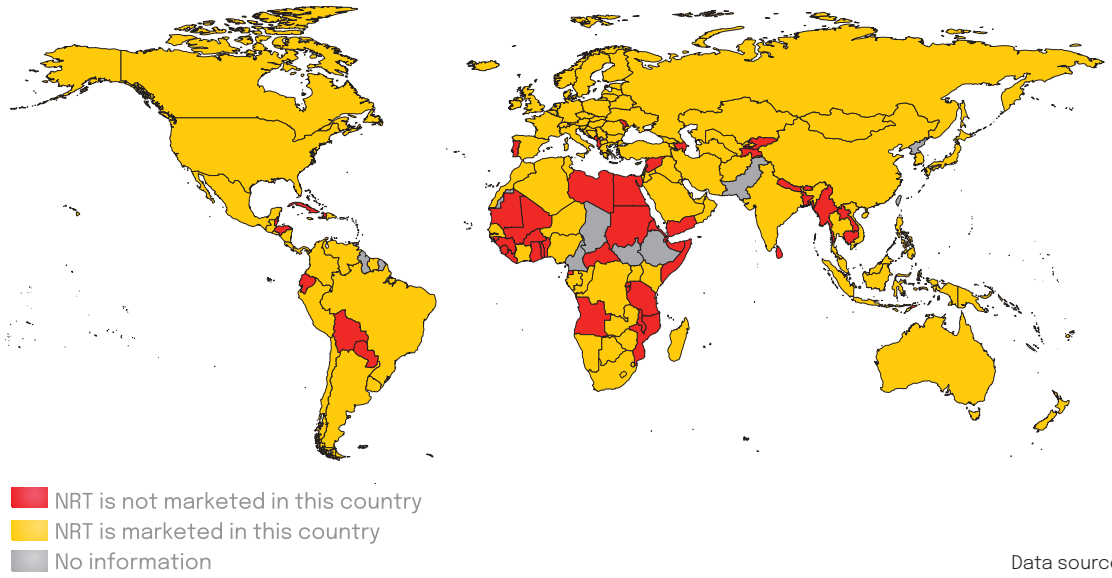
In its annual 'Reports on the global tobacco epidemic', the WHO provides updates on the number of countries that have implemented MPOWER measures, and what level of implementation they have achieved. In 2023, the WHO reported that, as of 2022, 151 countries had achieved at least one MPOWER measure at the 'highest level of achievement'. According to the WHO, this means 5.6 billion people, or 71% of the world's population, are "covered" by at least one MPOWER measure.[26]

The problem is that many of the MPOWER goals, such as smoking bans or bans on sales to minors, simply involve putting legislation on the statute book, or engaging in activity like a public health campaign. While laws may be passed, many countries, particularly LMIC, do not have sufficient enforcement capacity to deliver on bans of any kind, so nothing changes on the ground. Meanwhile, public health campaigns tend to celebrate outputs rather than outcomes. It could be argued that the same can be said for much of MPOWER itself.

One obvious way to effect population-wide health changes would be to significantly improve smoking cessation services for people who want to quit. However, the WHO admits that this is the weakest part of the global tobacco control landscape. 'Offering help to quit tobacco' – the 'O' in MPOWER – is also, not coincidentally, one of the most expensive measures for countries to implement. In 2021, the WHO acknowledged that cessation services are "insufficient and unavailable in much of the world", and that they had been "further neglected" as a consequence of the COVID pandemic.[27]

What does the global landscape for the availability of Nicotine Replacement Therapy (NRT) look like?

Global availability of Nicotine Replacement Therapy (NRT)



Data source: WHO, 2019b[28]

The map does not provide the full picture, however; it only shows where NRT products can be legally marketed by the pharmaceutical companies that manufacture them. The fact that legislation allows NRT to be sold does not mean that people who smoke can easily access it.

In some HIC, people can go to their healthcare provider or dedicated smoking cessation service, and obtain NRT for free. People may also be able to purchase NRT over the counter from pharmacies or other retailers.

But in many LMIC, home to four in every five people who smoke, accessing NRT may be a different story. For example, while NRT is officially available in India, its cost may be beyond the reach of people living in poverty. It is reported that health centres have few supplies, and access is set to become even more restricted following a recent decision to make the products available only on prescription.[29]

What else can be done?

After two decades of the FCTC, at least one billion people smoke, and there are over eight million smoking-related deaths every year. Writing in *The Lancet* in 2022, Robert Beaglehole and Ruth Bonita, both emeritus professors at the University of Auckland and both global experts on the prevention of NCDs, shared this assessment:

> "Tobacco control is not working for most of the world. Four out of five of the world's smokers are in LMIC. In these countries where most of the eight million deaths caused by tobacco occur each year, rates of tobacco use are falling only slowly. Globally, the overall number of tobacco users has barely changed [...] [M]ost countries are not on track to achieve the SDG 3.4 for non-communicable diseases; its achievement will require a much more ambitious tobacco target [...] The FCTC is no longer fit for purpose, especially for low-income countries."[30]

These conclusions are particularly damning given that both formerly worked at the WHO; Beaglehole was Director of the Department of Chronic Diseases and Health Promotion, while Bonita was Director of Surveillance in the NCD Cluster.

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People continue to smoke primarily because of the reinforcing properties of nicotine. Yet it is not nicotine that causes tobacco-related disease, but the toxins released in smoke when tobacco burns. Therefore, in addition to whatever tobacco control policies are deemed expedient, it is imperative to try and encourage people who do not want to or cannot quit smoking to switch to significantly less dangerous ways of consuming nicotine. This is the principle behind tobacco harm reduction.[31,32]

Tobacco harm reduction

Harm reduction is often explained by reference to car seatbelts. Driving is risky. But no government would ban people from driving because it carries a risk of harm. Seatbelts do not eliminate the risks associated with driving, but their use significantly decreases the chance of serious injury in most collisions. Seatbelts save lives.

This is a reasonable analogy as far as it goes. But harm reduction is not just about health and safety. As it applies to drug use and HIV/AIDS prevention – and now tobacco – harm reduction drills to the heart of the universal right to health.

The universal right to health was one of the founding principles of the WHO when it was established in 1948. Although not explicitly stated, it follows that this right must be extended to every citizen, even if they are engaging in activities which may earn the disapproval of wider society.

It was this principle that lay at the heart of the harm reduction movement of the 1980s. The movement was initiated not by doctors or public health officials, but by gay and drug-injecting communities affected by HIV and AIDS. These communities knew that, despite the fear of contracting HIV, people would continue to inject drugs or have risky sex; simply advising abstinence would not work. It was therefore both pragmatic and compassionate to ensure people could access help that would reduce their risk of harm and the onward transmission of the virus to others. This included the provision of condoms, clean needles and opiate-based medicines, enabling people who used heroin to reduce their intake or switch completely, helping stabilise otherwise chaotic lives.

Under a harm reduction approach for tobacco, where nicotine abstinence is unachievable, the substitution of SNP for smoking represents a net benefit both to individuals and to public health.

People who cannot quit smoking or using the more dangerous forms of smokeless tobacco should have access to the full range of SNP - vapes, heated tobacco, snus, nicotine pouches or nicotine replacement therapy. This is not simply about consumer choice, but a pathway to better health. People can make improvements to their health outcomes by completely switching from smoking to SNP or by dual use, with the potential to reduce the number of cigarettes smoked over time until they can quit completely.[33,34]

Product choice is important as consumers attempting to switch away from smoking may need to experiment with more than one type of SNP until they find one that works for them. Alternatively, people may use more than one type of SNP over the longer term. The key element is the reduction of, or complete substitution for, risky tobacco use.

Tobacco harm reduction is supported by the right to health under Article 12 of the International Covenant on Economic, Social and Cultural Rights (ICESCR).[35] The ICESCR affirms the obligation of States to support people in making informed choices about

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their health. It is an approach that uses a language of empowerment and enablement, and recognises people as a key resource. This is fundamental to tobacco harm reduction.

Tobacco harm reduction and the FCTC

Article 1 (d) of the FCTC states:

> "'Tobacco control' means a range of supply, demand and harm reduction strategies that aim to improve the health of a population by eliminating or reducing their consumption of tobacco products and exposure to tobacco smoke"[36]

While named as the third pillar of 'tobacco control', the term 'harm reduction' is not defined in the FCTC. The architects of the Convention say the phrase was included following conversations with the tobacco industry. For years, the industry had been trying to develop products that would allow the consumption of nicotine without combustion. But all efforts ended in failure – failures which are scrutinised in detail in the third biennial GSTHR report, *The Right Side of History*.[37] By the time the FCTC was enacted in 2005, there were still no viable commercial products on the market.

However, despite scepticism among WHO officials that the industry could deliver viable non-combustible products, or were even sincere in their intentions to do so, it was recognised that over time such products might be developed. The Convention preamble therefore obliges Parties to "promote measures of tobacco control based on current and relevant scientific, technical and economic considerations".

It is clear tobacco control now needs to be reassessed in light of the advent of SNP. Beaglehole and Bonita (2022) argue that "neither WHO nor the FCTC are grounded in the latest evidence on the role of innovative nicotine delivery devices in assisting the transition from cigarettes to much less harmful products [...] The missing strategy in WHO and FCTC policies is harm reduction".[38]

MPOWER should be broadened to accommodate the huge potential of harm reduction, as shown below. The revised system must monitor the degree to which countries are assisting adult tobacco users to switch away from the most dangerous modes of consumption. Under a new EMPOWERED model, enforcement interventions would be balanced with a broader public health approach that enables adults who use risky tobacco to make informed choices about their health.

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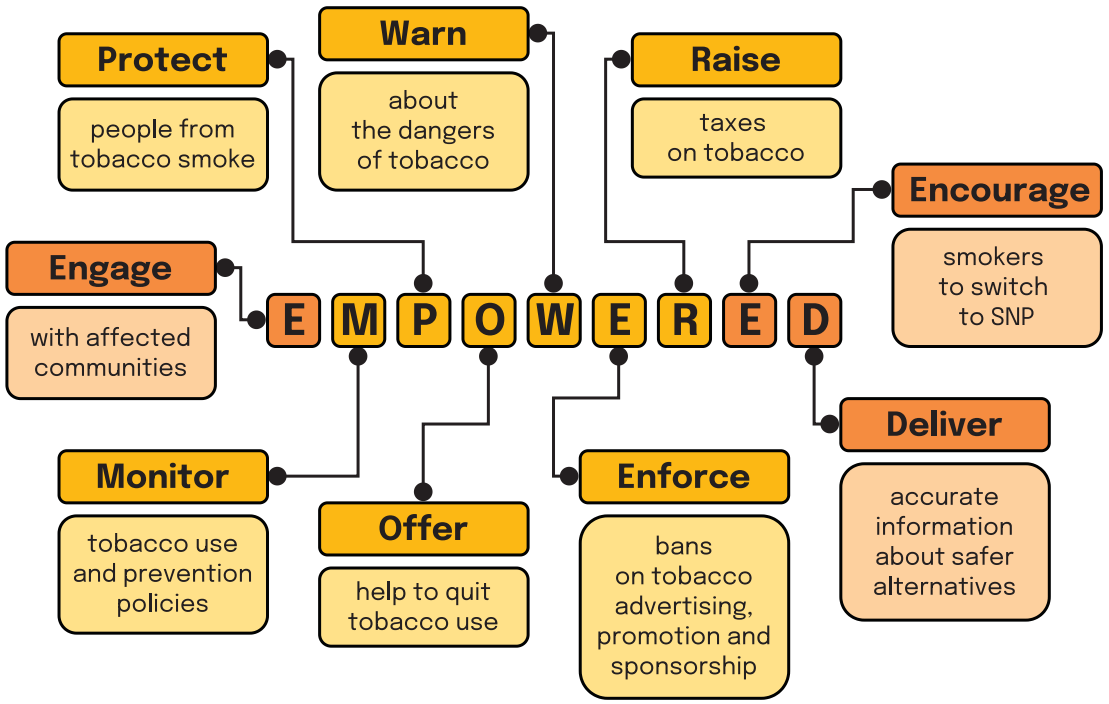
the moral basis for tobacco harm reduction is clear

EMPOWERED model



The moral basis for THR is clear, but does it work in practice? There is a growing body of evidence demonstrating the potential for harm reduction to improve the health of adults who smoke. This can be through a range of both older and more recently developed safer nicotine products.

The advent of THR has opened up many opportunities for people who want to make that crucial switch away from using combustible to non-combustible products. An overview of this evidence base forms the focus of the next chapter.

Chapter Two:
The evidence for tobacco harm reduction

"People smoke for nicotine, but they die from the tar."[39] These words, which many have come to regard as the founding statement of THR, were published in the *British Medical Journal* in 1976 in an article by Michael Russell.

But this British psychiatrist and tobacco researcher had actually opened the door to THR five years previously. In a 1971 paper in the *British Journal of Medical Psychology*, he had been the first to identify that "dependence on the pharmacological effects of nicotine" was "the main reason" why people continued smoking.[40]

At that time, researchers often saw smoking simply as a habit – and consequently, something that should be easy to stop. But Russell knew this was not the case. Curiosity about people and their actions drove his medical practice; in a 2003 interview, reflecting on his decision to specialise in psychiatry, he said: "I found learning to understand people's thoughts, feelings and behaviour much more interesting than [...] the functioning of their hearts, bowels, liver or stomach."[41] With colleagues at the Addiction Research Unit of London's Institute of Psychiatry, Michael Russell, fuelled by his understanding of nicotine's role, worked to develop smoking cessation therapies.

Meanwhile, the tobacco industry was, of course, continuing to sell millions of cigarettes. It was also busy trying to quell growing public concern over the detrimental health effects of smoking. Since the 1960s, companies had been manufacturing and promoting 'low tar', 'light' or even 'ultra-light' brands, advertising the use of filters which they claimed reduced or removed harmful elements – the tar – from the smoke.

Consumers were encouraged to believe these products were healthier than conventional cigarettes.[42,43] They were not. Over the course of the twentieth century, tobacco companies would spend many millions of dollars attempting to mitigate the risks of combustion or give the impression of doing so. There were numerous iterations of the filter cigarette, and some companies even experimented with nicotine delivery without combustion. But all these efforts failed. Chapters Two and Three of the GSTHR's 2022 report, *The Right Side of History*, delve into the history of these (mostly secretive) ventures in some depth.[44]

Russell's now famous 1976 article in the *British Medical Journal* is entitled 'Low-tar medium nicotine cigarettes: a new approach to safer smoking'. It addresses a major issue with the 'low-tar' cigarettes then on sale; the products were also low in nicotine, and therefore would not satisfy the consumer:

> "To expect people who cannot stop smoking to smoke cigarettes that have hardly any nicotine is illogical. People smoke for nicotine but they die from the tar. Their risk of lung cancer and bronchitis might be more quickly and effectively reduced if attention were focused on how to reduce their tar intake, irrespective of nicotine intake."[45]

Michael Russell, a British psychiatrist and tobacco researcher, opened the door to THR in 1971

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the tobacco industry was busy trying to quell growing public concern over the detrimental health effects of smoking

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tobacco companies spent many millions of dollars attempting to mitigate the risks of combustion or give the impression of doing so

Of course, it is now clear that the 'safer smoking' Russell referred to in the title of his BMJ article is an oxymoron. But his analysis – and the spirit of compassionate enquiry he brought to the field – would resonate for many years to come, leading many to view him as the 'father' of THR.

THR: into the twenty-first century

The next significant scientific milestone for a THR approach came a quarter of a century after Michael Russell's key findings. In 2001, the US Institute of Medicine published a report titled 'Clearing the smoke: assessing the science base for tobacco harm reduction'. It provided one of the first definitions of THR from an official and credible source:

"a product is harm reducing if it lowers total tobacco mortality and morbidity even though the use of that product may involve continued exposure to tobacco-related toxicants" – US Institute of Medicine

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"making effective, affordable, socially acceptable, low-hazard nicotine products... could generate significant health gains" - Royal College of Physicians, UK

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look beyond vaping and it is possible to find a wealth of evidence that details both the safety record and substitution potential of another SNP: Swedish-style pasteurised snus

"For the purposes of this report, a product is harm reducing if it lowers total tobacco mortality and morbidity even though the use of that product may involve continued exposure to tobacco-related toxicants."[46]

'Clearing the smoke' highlighted what it called Potential Reduced Exposure Products (PREPs) that "have been or could be demonstrated to reduce exposure to some of the toxicants in most conventional products". At the time of the report's publication in 2001, the only products to which this description could refer were certain brands of smokeless tobacco. Stonewall, marketed in the USA by Star Scientific Inc., and General Snus, sold by Swedish Match, had both been the subject of provisional studies.

Interest continued to grow in the early 2000s about how to identify tobacco products that may carry fewer health risks than cigarettes - as well as suitable methods to test them. And six years after the US Institute of Medicine report, the UK Royal College of Physicians (RCP) published 'Harm reduction in nicotine addiction' (2007), which argued "for the application of harm-reduction strategies to tobacco dependence". The authors suggested "that making effective, affordable, socially acceptable, low-hazard nicotine products... could generate significant health gains".[47]

As in 2001, however, the only less risky alternatives to cigarettes available were oral smokeless products, and the UK had effectively banned these back in 1992 after concerns that young people were using an American smokeless tobacco, Skoal Bandits. And so THR would remain a concept without widespread real-world application – until vaping devices emerged onto the scene.

Is that really the full picture? The safety and efficacy of vaping as a tool for smoking cessation has dominated scientific research and media commentary in the early years of the twenty-first century. This is a consequence of the global popularity and attention that vaping products have gained over the past two decades.

But look beyond vaping and it is possible to find a wealth of evidence that details both the safety record and substitution potential of another SNP: Swedish-style pasteurised snus.

Meanwhile in Scandinavia: the quiet success story of Swedish snus

Snus has been used in Sweden for over 200 years – and the evidence base for the role snus can play in THR has developed over a much longer period of time. Named after the Swedish word for snuff, snus is made from ground tobacco leaves that are mixed with salt and water. It may also contain food-grade tobacco smoke aroma, or other flavourings, and is placed under the upper lip either in small teabag-like sachets called portion snus, or can be used loose. Snus is most widely used in Scandinavia, particularly in Sweden and Norway.

The Swedish snus on sale today is distinct from other types of oral tobacco products because of the way it is produced. Unlike some other smokeless tobaccos, the tobacco in Swedish snus is not fermented, but pasteurised.

This heat-treatment process inhibits the growth of bacteria that assist in the formation of a range of toxicants found in tobacco products. Pasteurisation also contributes to its chemical stability, enhancing the shelf-life of the final product.

The production of snus became significantly more safety-focused during the 20th century. Changes introduced by manufacturers resulted in substantial decreases in the levels of unwanted substances in the product; a voluntary quality standard for snus products, the GothiaTek® standard, now sets maximum levels for certain constituents.[48] There are also strict requirements for how the tobacco used in snus is grown. The tobacco leaves are then either air- or sun-cured, significantly reducing the levels of a toxicant called benzo(a)pyrene.[49]

Snus has been used in Sweden since the 18th century. It was the dominant mode of tobacco consumption until the 1930s, when it was overtaken by cigarettes. But following two well-publicised UK and US medical reports on the dangers of smoking in the early 1960s, cigarette use in Sweden began to decline, while snus use began to increase; this appears to have happened spontaneously, with no intentional public health messaging that described the relative risks of the two products.

By the 1990s, snus had overtaken smoking among Swedish men. Uptake continued and spread to other population groups, and over the border into Norway; turn to our in-depth country profile for more on the Norwegian experience in Section Six.

High levels of snus use in Sweden and Norway are today associated with very low levels of smoking and smoking-related disease. Almost one in four Swedish men (23%) used snus daily in 2018.[50] Sweden has by far the lowest rate of smoking in Europe. It is the only EU state to have achieved 'smoke-free status', classically defined as less than 5% adult smoking prevalence in the adult population aged between 15 and 54. By comparison, the average EU smoking rate for this population is 26%.[51] Swedish men also have Europe's lowest level of tobacco-related mortality, with 152 deaths attributable to smoking per 100,000, compared with the European average of 373 deaths per 100,000. For a closer examination of the product, its use and role substituting for combustible cigarettes, see the 2022 GSTHR Briefing Paper, 'What is snus?'.[52]

The long-term and widespread availability and cultural acceptance of snus in Sweden and Norway has led to observable changes in consumer behaviour around nicotine consumption. This is THR in action. So why has snus not brought about an end to smoking worldwide? One major factor is the mode of consumption. Many people who use nicotine by inhaling the smoke of combustible cigarettes do not find oral use of nicotine as appealing. And this is why the advent of nicotine vaping devices sparked a global revolution in tobacco harm reduction.

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Vaping – and the role of consumer demand

The first vaping devices, invented by Hon Lik and made by Ruyan, were launched on the Chinese market in 2004. Just a few years later, similar devices were being sold in the US, UK and elsewhere. The battery-operated devices produce an aerosol containing nicotine and a range of flavourings. The battery heats up a coil or atomiser; this turns the flavoured liquid into a vapour to be inhaled. The hand-to-mouth action and experience of using the product provides a reasonable simulacrum of smoking.

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PHE did not identify any new evidence that forced a change to its overall assessment about the relative safety of vaping compared to smoking

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"people in the e-cigarette group were more likely to report complete abstinence from combustible cigarettes" – Hollings Cancer Center

Consumers were interested in the products, then most commonly termed 'e-cigarettes'. They began gaining popularity, as people were successfully using them to switch away from smoking. Users started sharing information on dedicated online message boards, posting their experiences, tips on 'modding' (modifying) devices, or simply where to buy quality devices or e-liquids.

In light of the rise in use and availability of vaping devices, scientists and regulators began looking at the products more closely. In the UK in 2010, vapers were concerned when the UK's Medicines and Healthcare Products Regulatory Agency (MHRA) opened a consultation on "whether and how to bring unlicensed nicotine containing products, such as electronic cigarettes, within the medicines licensing regime".[53]

Over a thousand individuals submitted responses to the MHRA consultation. Most explained that vaping devices had helped them quit smoking, and asked policymakers to avoid restricting access to vapes fearing that a return to combustible cigarettes would be the inevitable consequence. The proposals for medical licensing in the UK were dropped. For more on the history of vaping products, and the important role consumers played in both their technical and social development, see Chapters Three and Four of the GSTHR's 2022 report, *The Right Side of History*.

It was in 2015 that Public Health England (PHE), an executive agency of the UK Government's Department of Health and Social Care, published what would become a landmark review exploring the safety and harm reduction potential of nicotine vaping devices. In the review, PHE concluded that, while not completely risk-free, emissions from vapes were unlikely to exceed 5% that of combustible cigarettes.[54]

The foreword to the report saw PHE's Chief Executive Duncan Selbie communicate this information in a way that was intended to be more accessible to the public – alongside another crucial finding of the review:

> "In a nutshell, best estimates show e-cigarettes are 95% less harmful to your health than normal cigarettes, and when supported by a smoking cessation service, help most smokers to quit tobacco altogether."[55]

In 2016, the RCP published a near two-hundred-page update to its 2007 report. In 'Nicotine without smoke: tobacco harm reduction', its key findings and recommendations mirrored the conclusions of PHE, and included the following (emphasis in the original):

> "E-cigarettes are not currently made to medicines standards and are probably more hazardous than NRT. However, the hazard to health arising from long-term vapour inhalation from the e-cigarettes available today is unlikely to exceed **5% of the harm from smoking tobacco. […] [In] the interests of public health it is important to promote the use of e-cigarettes, NRT and other non-tobacco nicotine products** as widely as possible as a substitute for smoking in the UK."[56]

PHE continued with regular updates to its review of vapes for a decade until the organisation's dissolution in 2022, when its responsibilities were passed to the new Office for Health Improvement and Disparities. PHE did not identify any new evidence that forced a change to its overall assessment about the relative safety of vaping compared to smoking, and the potential health benefits for smokers who switched.

Another substantive update from the RCP was published in 2024. While the report, 'E-cigarettes and harm reduction: An evidence review', did acknowledge concerns

over a rise in the use of vaping products by young people in the UK, the authors did not waver from the RCP's earlier conclusions about the important role of vaping in smoking cessation. This was in spite of the huge number of scientific papers published in the eight years since its previous update. The report concluded that [emphasis added]:

> "Since the 2016 RCP report the evidence of the effectiveness of e-cigarettes as an aid to quitting has become much stronger. Use of e-cigarettes by young people and non-smokers has increased substantially in recent years, [and] **prompt remedial measures are needed to curb youth vaping without undermining use by adult smokers as an aid to quitting**."[57]

The 2015 PHE report was the first of its kind. It was in the UK where researchers first identified the link between smoking and lung cancer in the 1950s; the UK also led the way in acknowledging the lower risks of e-cigarettes compared to smoking and their potential role in harm reduction. For more on how THR developed in the UK, turn to the in-depth country profile in the Regional and National insights section.

Medical and public health bodies around the world began to undertake their own assessments of the harm reduction potential of vaping. Many came out in favour:

> "The use of e-cigarettes is expected to have a lower risk of disease and death than tobacco smoking. […] E-cigarettes have the potential to reduce the enormous burden of disease and death caused by tobacco smoking if most smokers switch to e-cigarettes."
> International Agency for Research on Cancer (see footnote).[58]

> "The Ministry considers vaping products could disrupt inequities and contribute to a Smokefree 2025. The evidence on vaping products indicates they carry much less risk than smoking cigarettes but are not risk-free. Evidence is growing that vaping can help people to quit smoking. There is no international evidence that vaping products are undermining the long-term decline in cigarette smoking among adults and youth and may in fact be contributing to it."
> New Zealand Ministry of Health (2020).[59]

> "Vaping can benefit public health, given substantial evidence supporting the potential of vaping to reduce smoking's [death] toll. […] Frequent vaping increases adult smoking cessation [and] completely substituting vaping for smoking likely reduces health risks, possibly substantially."
> From 'Balancing Consideration of the Risks and Benefits of E-Cigarettes', a statement from fifteen past Presidents of The Society for Research on Nicotine and Tobacco, published in the American Journal of Public Health (2021).[60]

> "Nicotine vaping products are a safer alternative to tobacco smoking and offer a harm minimisation tool when first line pharmacotherapies and/or behavioural interventions have been unsuccessful."
> The Royal Australian & New Zealand College of Psychiatrists (2023).[61]

Vaping to quit smoking

The efficacy of vaping as an exit strategy for smoking has also now been explored in numerous large-scale studies. The highly respected Cochrane research network has been active in communicating the results of research in

this area since 2014. Based in the UK but connecting researchers from around the world, Cochrane synthesises, summarises and interprets the findings of medical research to help people, especially policymakers, make evidence-based decisions about health interventions.

At the core of its operation are the Cochrane Reviews, a database of systematic reviews and meta-analyses. Cochrane has now carried out eight systematic reviews under the title 'Electronic cigarettes for smoking cessation', with each review essentially updating the last as new studies are published. The most recent version was published in January 2024. It concluded:

> "There is high-certainty evidence that electronic cigarettes with nicotine increase quit rates compared to nicotine replacement therapy and moderate-certainty evidence that they increase quit rates compared to electronic cigarettes without nicotine. Evidence comparing nicotine electronic cigarettes with usual care or no treatment also suggests benefit […]. Overall incidence of serious adverse events was low across all study arms. We did not detect evidence of serious harm from nicotine electronic cigarettes, but the longest follow-up was two years and the number of studies was small."[62]

In August 2023, The Hollings Cancer Center, part of the Medical University of South Carolina, published the results of the largest ever US study of vaping as a route to smoking cessation. Those taking part came from eleven US cities and the research spanned a four-year period. Crucially, the study included people who had not stated any desire to quit smoking. One group of people were supplied with nicotine vapes and were told they could use them as much or as little as they liked. The control group were not given anything.

Matthew Carpenter PhD, the first author on the paper, noted that not giving participants strict instructions on how they should use the vaping devices was a deliberate choice. Unusually for this type of research, the study was designed to be as naturalistic as possible, mimicking real-world conditions. Its findings were significant:

> "The study showed that people in the e-cigarette group were more likely to report complete abstinence from combustible cigarettes. They were also more likely to report that they'd reduced the number of cigarettes per day that they smoked and their number of 'quit attempts'. Quit attempts are an important metric because people usually need multiple tries before they can successfully stop smoking."[63]

In February 2024, Dr Nancy Rigotti, an international expert in tobacco dependence treatment based at Harvard Medical School, wrote an editorial in *The New England Journal of Medicine* titled 'Electronic Cigarettes For Smoking Cessation – Have We Reached a Tipping Point?'. She concluded:

> "It is now time for the medical community to […] add e-cigarettes to the smoking-cessation toolkit. Clinicians should be prepared to have a risk–benefit discussion about e-cigarettes with their patients who smoke and recommend a trial of the products in appropriate situations.
>
> "U.S. public health agencies and professional medical societies should reconsider their cautious positions on e-cigarettes for smoking cessation. The evidence has brought e-cigarettes to a tipping point. The burden of tobacco-related disease is too big for potential solutions such as e-cigarettes to be ignored".[64]

Newer SNP: heated tobacco products and nicotine pouches

In comparison to both snus and vaping devices, heated tobacco products and nicotine pouches are comparatively new to the market. It is therefore unsurprising that the evidence base for their public health potential is less well developed. Researchers agree that a lot more information – and specifically, more information from non-industry sources – is needed to establish to what extent these products could reduce death and disease from smoking. But what are these products, and what do we know about them so far?

A conventional cigarette burns tobacco at temperatures upwards of 800˚C, releasing harmful chemicals into the smoke inhaled by the user; conversely, heated tobacco products are battery-operated electronic devices which heat sticks of tobacco to a temperature of no more than 350˚C. Heating tobacco to this level causes nicotine to be released in a vapour inhaled by the user, but the tobacco does not combust.[65]

In 2022, a Cochrane Database Systematic Review titled 'Heated tobacco products for smoking cessation and reducing smoking prevalence' synthesised much of the research available to date. Its conclusions were cautious:

> "Heated tobacco probably exposes people to fewer toxins than cigarettes, but possibly more than not using any tobacco. Falls in cigarette sales appeared to speed up following the launch of heated tobacco in Japan, but we are uncertain whether this is caused by people switching from cigarettes to heated tobacco. […]
>
> "We need more independently-funded research into whether heated tobacco helps people stop smoking, whether it results in unwanted effects, and the impact of rising heated tobacco use on smoking rates."[66]

Nicotine pouches, meanwhile, are thumbnail-sized sachets containing vegetable fibres infused with nicotine and a range of flavours. Placed in the mouth between the lip and gum, nicotine is absorbed through the oral mucous membrane. Unlike Swedish snus, with which they are often confused, nicotine pouches do not contain any raw or processed tobacco leaves. The nicotine used in pouches may be synthetic, or extracted from tobacco plants.[67]

In a scoping review for the journal *Nicotine & Tobacco Research* published in June 2024, Nargiz Travis and colleagues examined the evidence for the public health potential of oral nicotine pouches. Their conclusions were also cautious: "[nicotine pouches] appear to be less toxic than cigarettes and deliver comparable nicotine, presenting an alternative for combustible product users." But the researchers noted that 17 of the 62 studies they included in their review were industry-funded:

> "Data from independent research is critically needed. Industry marketing of [pouches] may encourage initiation in youth and situational and dual use in adults."[68]

Regardless of their nicotine delivery method, however, the crucial difference between all SNP and traditional cigarettes remains their lack of combustion. By not burning tobacco, all of these products, to varying degrees, are safer than continued smoking. The chart below illustrates the findings of a 2022 systematic review and meta-analysis by Rachel Murkett and colleagues. It shows the relative risk of different nicotine-containing products, and the stark difference in risk between those that are combustible and non-combustible.[69]

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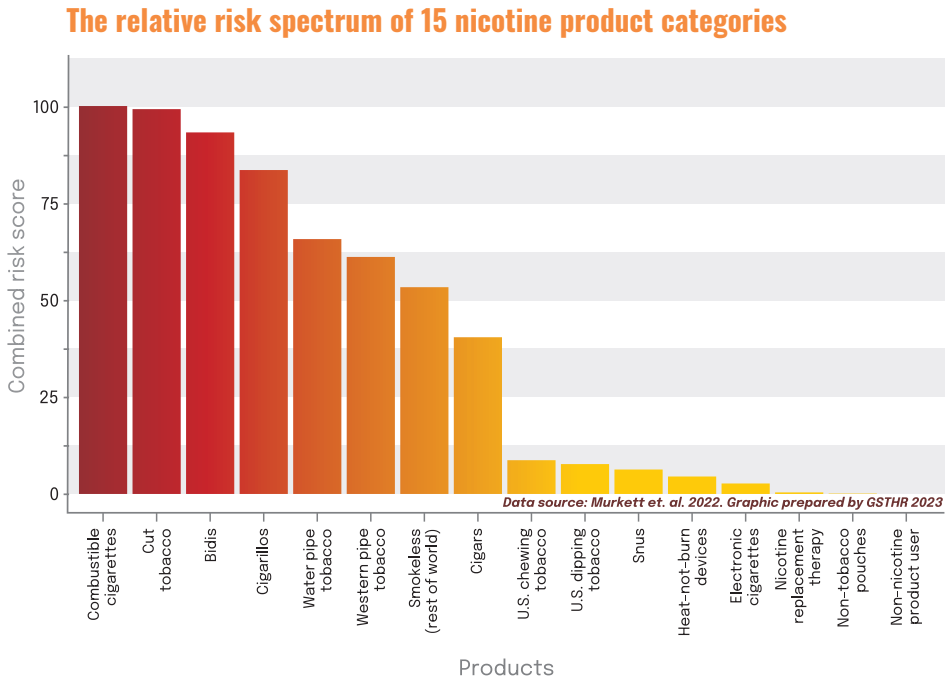


Comparing SNP with nicotine replacement therapy

Resistance to the use of SNP for smoking cessation among some medical professionals may be rooted in their familiarity with nicotine replacement therapy (NRT), and a sense that SNP are an unnecessary and unwarranted complication. NRT has been marketed since the 1980s. It aims to enable people to substitute cigarettes for a range of nicotine-infused products, such as patches, gums and lozenges. Medically approved and licensed, these products are all manufactured by the pharmaceutical companies with which medical professionals are also familiar.

Over the decades, many thousands of people have used NRT products, often with the support of their doctor or health professional, to successfully quit smoking. Research shows that their likelihood of success will have increased if they had access to the kind of talk therapies delivered by dedicated smoking cessation services. There is no doubt that NRT is an important part of the THR product portfolio.

However, using these products does not suit everyone. Many people do not regard themselves as being in need of medical help simply because they smoke. Most people who smoke do not seek professional help to quit. Furthermore, the clinical evidence to date for the efficacy of NRT using currently available products is not particularly encouraging. Overall compliance is poor: an overview of NRT published by the *International Journal of Health Sciences* concluded that "most NRT users discontinue treatment prematurely".[70]

The previously mentioned ongoing Cochrane Review, 'Electronic cigarettes for smoking cessation', funded by both the National Institute for Health Research and Cancer Research UK, has compared the use of vaping for smoking cessation with NRT. The 2022 version concluded:

> "If six in 100 people quit by using nicotine replacement therapy, eight to twelve would quit by using electronic cigarettes containing nicotine. This means an additional two to six people in 100 could potentially quit smoking with nicotine containing electronic cigarettes".[71]

Another important study – again funded by the National Institute for Health Research and Cancer Research UK – was led by Professor Peter Hajek and colleagues. This randomised controlled trial (RCT) compared the efficacy of e-cigarettes and NRT in combination with behavioural support.

The research studied the experiences of 886 participants who attended National Health Service Stop Smoking Services. The participants were randomly split into two groups. One group was able to choose from an NRT of their choice, including combinations of different products, for up to three months. The other received a vaping starter

pack, consisting of a refillable device with one bottle of e-liquid at a strength of 18mg of nicotine per ml. This group was encouraged to purchase further e-liquids, choosing flavours and strengths that suited them. Both groups also received weekly behavioural support for at least four weeks. The research, published in 2019 in *The New England Journal of Medicine*, delivered an unambiguous conclusion:

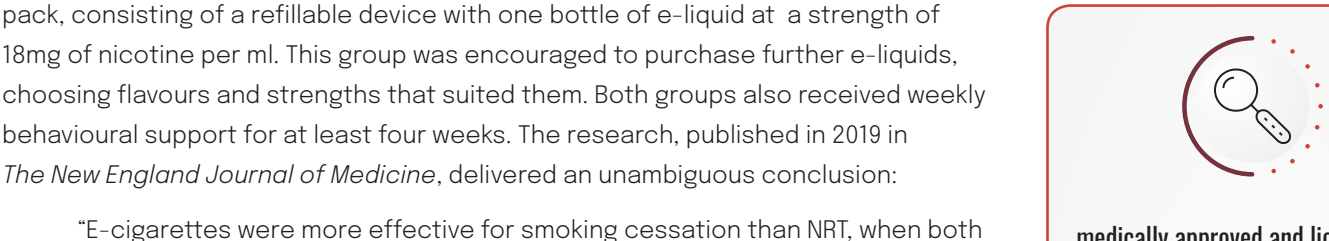
> "E-cigarettes were more effective for smoking cessation than NRT, when both products were accompanied by behavioural support."[72]

The findings of this particular study did much to underpin the UK government's decision to launch a pioneering THR intervention in April 2023. Called 'Swap to Stop', the programme is set to offer one million people a free vape starter kit and behavioural support. If the programme's ambition is fulfilled, this will reach almost 1 in 5 of all those who smoke in England.[73]

Evidence is also now emerging of the changes that can occur both in people's use of vaping devices and their consumption of nicotine after they have switched from smoking. In 2024, the results of a longitudinal study conducted by Jean-François Etter were published in the journal *Addictive Behaviours*. Etter surveyed 375 long-term vapers online between 2012–2016, and then again in 2021, at an average eight-year interval. The author concluded:

> "In long-term, continuous users, over a period of 8 years, substantial changes were observed in the models of e-cigarettes used, in the flavours and strength of e-liquids, and in the reasons for vaping. Their level of nicotine dependence tended to decrease over time. These users were satisfied with e-cigarettes and vaped mostly because they felt that vaping was less dangerous than smoking, and for enjoyment."[74]

Etter's conclusion throws up a key, if sometimes controversial, word: 'enjoyment'. Much of the scientific literature fails to acknowledge that many people enjoy vaping, and that this may be key to why vaping is more effective than other smoking cessation interventions. The same is likely to be true of other SNP. While significant



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Consumers' experiences of switching from smoking to SNP

In the 2020 GSTHR report Burning Issues, Chapter Three, titled 'Not just the nicotine: consumers speak', was dedicated to a series of short interviews with people from around the world whose use of SNP had helped them quit smoking.[75] A few of those quotes are reproduced below.

"I was in really bad shape, chain smoking 40 a day or more. I did not have proper sleep, I used to have a lot of colds, lot of wheezing, I had to keep going to the doctor again and again. That's when I started researching e-cigarettes. […] I tried the gum [and] I tried the patch once, but it's not as fast as being absorbed in the lung. […] Vaping replaced the action of smoking. Smoking is a ritual – the hand to mouth action. Vaping replicates a lot of that muscle memory, even if you are just vaping 0mg. The one thing that vaping does is make you less dependent over time. When I started vaping I was consuming 200ml [of e-liquid] a month, now I'm down to 60ml."

Vaper from India

"I was smoking about 10 a day for at least 30 years. I was [also] using snus from when I was about 18 or 19 years old but back in those days – I am 62 now – people were smoking, drinking and partying so I sort of stuck to both smoking and snus. […] Ultimately I threw away the cigarettes [in the early 1990s]. I took the pack of cigarettes and tore it apart and stuck to snus instead. I could run much longer, I didn't cough in the morning and there was no stench indoors."

Snus user from Sweden

"I'd been to Tokyo and seen [heated tobacco products] quite a few times there, and […] in smoking areas in Taiwan. I thought I should give it a try because it looked like people were changing their ways of smoking to this electronic thing. So, why not? I bought it and tried it for a week, while smoking at the same time, then found I couldn't bear the smell of smoking. I didn't really have a reason to quit smoking, I wasn't really trying to quit, I just thought maybe this is a better way. When it cleared up my chest and phlegm, I thought, yes, this is better."

HTP user from Taiwan

> "I switched because of breathing problems mainly. I continued to [use] both for about 3 to 4 weeks, but the vape fulfilled what I needed […]. I do find an improvement in my breathing when I'm out walking a lot. I find a big improvement in that. My cousin uses the vape and my sister as well, they have seen similar improvements in health and they are similar age to myself [73 years old]."
> Vaper from Ireland

The question of dual use

Those who are sceptical of – or in opposition to – THR often cite dual use of cigarettes and SNP as proof that the products do not help people quit smoking. However, the reality – as outlined in the testimonies above – is that many people find they can reduce their consumption of cigarettes when they start using an SNP; many will eventually manage to quit combustibles all together.

In 2024, the University of East Anglia in the UK published the results of a major RCT. People admitted to Accident and Emergency Units across six hospitals for any reason were screened for their smoking status. These were people who were not necessarily contemplating quitting smoking; the intervention was entirely opportunistic. One group received a vaping starter pack, advice and a referral to smoking cessation services. The other group was only given written information about the local services.

Six months later, almost one in four (23.4%) of the people who were assigned to receive vaping products had quit smoking, compared with 12.9% of those who were given only the written information about local services. Crucially, it was also found that those who received the vape packs but didn't quit altogether were more likely to have reduced the number of cigarettes they smoked than those in the non-vape group. Dr Ian Pope for the University Medical School said:

> "Attending the emergency department offers a valuable opportunity for people to be supported to quit smoking, which will improve their chances of recovery from whatever has brought them to hospital, and also prevent future illness… We believe that if this intervention was widely implemented it could result in more than 22,000 extra people quitting smoking each year."[76]

For dual users who smoke fewer cigarettes, there is strong evidence of a dose-response relationship between smoking and major disease outcomes. Recent work by the Institute for Health Metrics and Evaluation showed a five-to-seven-fold difference in mortality rates between smokers who consume five or fewer cigarettes a day against those smoking 20-30 cigarettes a day.[77]

Quitting smoking entirely is the best option to reduce health risks. People who quit smoking entirely before the age of 35 can avoid much of the damage from smoking.[78] But if quitting entirely is not possible, cutting back does have positive health implications. For people who want to cut down or quit smoking, but who either want or need to continue using nicotine, access to SNP can help them do so at significantly reduced risk.

Nicotine addiction, dependence, or use

It appears that some in the global public health community cannot accept the use of SNP because it means that people are consuming a drug – nicotine – outside of medical supervision. This discomfort is perhaps grounded in vague or nebulous moral objections; to 'not being free' or being a 'slave' to nicotine.[79]

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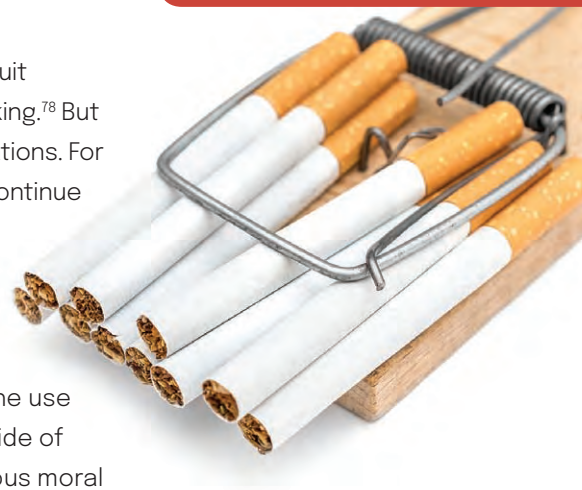


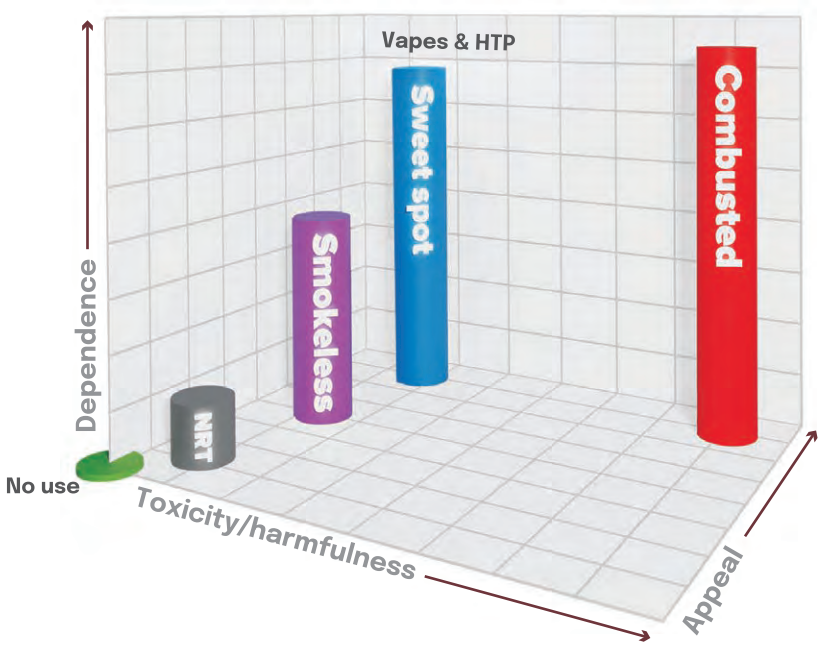
Dependence on nicotine – a compulsion to continue using it – is certainly a reality. People who smoke find it hard or impossible to quit even when they are fully aware of the major impact smoking has on their health. As noted at the opening of this chapter, this was understood and acknowledged in the work of Michael Russell as far back as 1971.

Arguably, the words 'addiction' and 'dependence' refer to the same thing. However, the word 'addiction' has, for many people, taken on symbolic, cultural and moral connotations far beyond any clinical definitions. When people talk about an addiction to nicotine, their frame for viewing the state of that addiction is often closely linked to their concept of the physical and mental misery associated with serious drug or alcohol use.

In clinical terms, addiction means that someone is using a substance in such a way that they are putting their health at risk, including the risk of death through intoxication or overdose. It means using in ways that cause the person problems in their relationships and social functioning, the replacement of someone's usual activities with use of the substance, the abandonment of their responsibilities at home or work, or criminal activity to facilitate continued use of the substance.

The impact of the use of nicotine without the attendant risks of smoking simply does not match up to the very serious damage caused by other types of addiction, either at a personal, community, or societal level. Isolated from smoking, the use of nicotine offers many people pleasure and even benefit, with relatively low risks attached.

In fact, the habit-forming nature of nicotine is an essential part of the framework for SNP to effectively challenge the appeal of cigarettes. David Abrams and colleagues developed what they called "a three-dimensional framework for harm minimisation". This envisages a 'sweet spot' for SNP, at the point where the risks to health are low, while the appeal to the user is high due to the product's ability to deliver nicotine in a way that is on a par with smoking.[80]



The three-dimensional framework for harm minimisation. Redrawn from original work of Abrams et al. 2018.

This chapter has reflected on the foundations of tobacco harm reduction, right back to Russell's clear-sighted analysis that "people smoke for nicotine but die from the tar".[81] The consideration of Sweden's large-scale and long-term shift from combustible tobacco to snus has shown that consumers will choose a product that delivers nicotine at a lower risk to their health, if it is available. And not only that, but the data show that those individual consumer choices have already led to significant population-wide decreases in tobacco-related morbidity and mortality.

However, people who smoke will only shift away from combustible tobacco when they have the option of a safer product that is both appropriate for them and appealing. While several regions have a tradition of oral tobacco product use, many do not. As a nicotine delivery system, vaping offers consumers several characteristics of smoking – particularly the hand-to-mouth action and consumption of nicotine via inhalation – but at vastly reduced

risk. The experiences of people who quit smoking by switching to vaping has shown that it offers both a satisfying and enjoyable replacement for cigarettes. This is in large part why vapes – and their widespread uptake among consumers – catalysed THR in the early twenty-first century.

Independent studies provide evidence that vaping is significantly safer than smoking, leading to their acceptance as a cessation tool by many professional public health and medical organisations around the world. And large-scale research has shown time and time again that more people are able to quit smoking by switching to vaping than when they are limited to using NRT. While more independent evidence is needed on how heated tobacco products and nicotine pouches can contribute to THR, their reduced risk profile in comparison to combustible tobacco means that they should be included in the full range of options for people who smoke.

Fulfilling the public health potential of THR using safer nicotine products rests on their large-scale substitution for combustible cigarettes. This means widespread availability and trust in products that appeal to even the most ambivalent of combustible tobacco users – including those not necessarily looking to quit.

So as we approach the end of the first quarter of the twenty-first century, is it yet possible to say that SNP are reducing or replacing smoking? To what extent is large-scale substitution already taking place, and where? Chapter Three will consider the current evidence, from population-wide studies of SNP use in comparison to smoking rates, to the major disruptions affecting global tobacco and nicotine markets. It's time to ask whether SNP are driving cigarettes out for good.

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Chapter Three: Global progress towards tobacco harm reduction

Industrial disruption and SNP

The concept of 'creative destruction' was first described in a book, *Capitalism, socialism and democracy*, by influential Austrian economist Joseph Schumpeter. His phrase describes a process of "industrial mutation that incessantly revolutionises the economic structure from within, incessantly destroying the old one, incessantly creating a new one".[82]

Since Schumpeter's book was published in 1942, the pace of technological change has increased dramatically. In 2024, it is harder than ever for companies to keep pace. Just as the digital camera, mobile phone and laptop upended their respective sectors, the advent of new, safer ways to consume nicotine has been highly disruptive to the tobacco industry.

In their Annual Report for 2013, investment company Goldman Sachs refreshed Schumpeter's concept for the 21st century:

> "The process of creative destruction is primarily driven by product or business model innovation – often abetted by technology – that results in a superior value offering for consumers, be it higher performance, greater convenience or lower cost. This enhanced value proposition is the source from which economic benefits then flow, first to the innovator and over time to its consumers and competitors. The new product or model often proliferates into a new paradigm until subsequent innovation in turn threatens its dominant position."[83]

It is interesting to note that the report authors at Goldman Sachs identified eight 'Disruptive Themes' for its audience of investors and financiers in 2013. Among the eight were cancer immunotherapy, 3-D printing and Big Data. But topping the list were e-cigarettes, which they identified had "the potential to transform the tobacco industry".

As early as 1958, executives in the tobacco industry knew that anything that could genuinely be described as a 'safer product' would challenge their existing commercial model. One remarked that anybody who came up with the 'safe' cigarette would dominate the market.[84] But no combustible product could ever be truly 'safer' - something

the industry knew early on. Yet companies still proceeded to market this deception in the form of the filter cigarette, while also wasting years and millions of dollars on unsuccessful efforts to make a viable non-combustible product.

When it eventually came, the most dramatic disruption ever to hit the tobacco industry began far beyond its offices, research labs and factories. It was Chinese chemist Hon Lik, working entirely independently, who patented the first commercially viable vaping device in 2003.[85] Hon Lik's revolution went beyond the creation of a product that enabled less risky consumption of nicotine. The newly established Beijing Saybolt Ruyan Technologies also offered its consumers a level of choice previously unavailable to the cigarette smoker - of flavours, different nicotine strengths and even styles of device. All were clearly intended to encourage a switch away from smoking. Hon Lik smoked heavily, and his father died of lung cancer.

Single use vaping products went on sale in the USA in 2006.[86] In the first year, sales of around $3 million offered proof of consumer demand. However, the US Food and Drug Administration (FDA) quickly put on the brakes, on the grounds that nicotine vapes were 'drug delivery devices' and thus fell under its jurisdiction. Vaping companies sued the FDA and won, but a legislative war between the government and the emerging vaping industry was sparked which continues to rage almost two decades later (see Chapter Four).

Early nicotine vapes were termed 'cig-a-likes', for their visible resemblance to the combustible cigarettes they were designed to replace. But the consumers who experimented with them found that they suffered from weak battery output and low nicotine strengths, overheated frequently and often leaked. Creative destruction had begun, but there were glitches.

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Consumers at the forefront of innovation

What happened next was quite remarkable, possibly unique, in the history of consumer product development. If you are unhappy with the performance of your mobile phone, TV or toaster, you can either switch to a different brand, or wait for an upgrade. Few if any consumers can just go to the garage and build a better one. But that's exactly what the early vaping hobbyists did.

Online chat forums facilitated the exchange of information between people who had taken up vaping. They shared what they had learned about how to improve on current product deficiencies. After a while came a collective realisation: vaping devices did not have to resemble cigarettes. This led to the development of larger, sometimes box or cylindrical-shaped devices known as 'mods' (from 'modification'), enabling a range of innovations such as refillable tanks and more powerful batteries.

Chinese industry meets consumer demand – and tobacco firms wake up

Alongside DIY consumerism was a need for the necessary components. Once Ruyan had shown the way, a new industry rapidly built up in Shenzhen, sometimes known as China's Silicon Valley. Companies began turning out a range of vaping devices and off-the-shelf components, adopting a business strategy of 'copy, improve, innovate'. Today, the global vaping industry is dominated by Chinese companies. While Shenzhen IVPS, Shenzhen KangerTech, Smoor, and RLX may not be instantly recognisable household names in many countries, they are the major players in this vast but still-young industry.

But it was in the US, not China, where the early non-tobacco start-ups began to grow the market. For the first six or seven years, the major international tobacco companies showed little interest. This changed suddenly in 2012, when US tobacco company Lorillard bought the US-based vaping company, blu E-cigs.[87]

Lorillard's purchase sounded the gun on a corporate race as tobacco companies vied to keep up. Over the next few years, major tobacco companies either bought into non-tobacco start-ups or began to develop their own non-combustible portfolios.

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analysis of US data supports the idea that nicotine vapes are increasingly being used as a substitute for smoking among adult tobacco users

Substantial consumer demand also brought many non-tobacco companies into the market. The result was a dizzying array of devices that generated a new, 21st-century mode of consuming nicotine, with sleek and stylish designs rolling out of the factories. Awareness of vaping was growing too, with companies like JUUL hitting the headlines – and often not for positive reasons.

The vape industry – businesses with links to tobacco companies and those which remained independent - continued innovating. Consumers who like high-tech kit can now buy vapes with touchscreens that can adjust the device's performance, or Bluetooth connectivity that enables users to remotely lock their device, change presets, track the number of puffs or even adjust the vapour output. Today, the vape market remains fast-moving and dynamic with regular product launches promising ever better user experiences. However, as with mobile phones, the window on true product innovation may be closing.

At first, the major tobacco companies focused exclusively on developing their own vape products. But before long, they began to seek ways to expand their non-combustible product ranges. In 2014, Philip Morris International (PMI) launched its first heated tobacco product (HTP), under the brand name IQOS, in Japan and Italy.[88] Expansion into HTP was primarily an option for the big tobacco companies - notably PMI, British American Tobacco (BAT) and Japan Tobacco International (JTI) - because of the significant research and development costs that were required to move these products from design concept to marketplace.

The big question: are SNP replacing combustible cigarettes?

So how has the introduction of SNP affected smoking? We will look at this from three perspectives: the acceptability of SNP compared to cigarettes (among consumers), evidence from market changes in sales of SNP and cigarettes, and changes in the prevalence of smoking and the use of SNPs.

As we explored in Chapter Two, there is strong evidence that many smokers find SNP, such as nicotine vapes, snus, nicotine pouches or HTP, to be acceptable alternatives to traditional cigarettes. In the US, analysis of data in the 2019 Population Assessment of Tobacco and Health (PATH) supports the idea that nicotine vapes are increasingly being used as a substitute for smoking among adult tobacco users.[89]

The thesis that substitution is taking place at a consumer level is supported by the many comparative studies exploring the experiences of people who used either NRT or nicotine vaping in an effort to quit smoking. The major randomised controlled trial (RCT) by Professor Peter Hajek and colleagues referenced in Chapter Two compared the satisfaction and craving reduction between nicotine vapes and nicotine gums or lozenges. It concluded that vapes were more effective at reducing cravings and increasing the participant's overall satisfaction.[90]

The International Tobacco Control (ITC) Policy Evaluation Project is also actively investigating tobacco use and public attitudes towards smoking and vaping in over 30 countries.[91] Data from this survey indicate that smokeless tobacco products like snus are increasingly popular alternatives to smoking in some European countries.

SNP and nicotine use: an era beyond smoking?

There are many studies of SNP, and in particular nicotine vapes, demonstrating efficacy in helping people quit smoking; evidence that we explored in Chapter Two. These studies primarily highlight the positive impact of SNP on reducing smoking by helping current smokers transition to these alternatives.

However, the broader context of substitution is also important. It is increasingly recognised that, in some markets and among some groups of consumers, SNP are now acting as total replacements for combustible cigarettes. This means that these products are not only being used by people who are switching from smoking, but also by people who are choosing SNPs as their first nicotine product, bypassing combustible cigarettes entirely. Does this mean that there is a broader role that SNPs can play in reducing smoking?

The phenomenon described is particularly evident in countries like Sweden and Norway, where the decline in smoking is associated with two factors: smokers transitioning to snus, and new nicotine users opting for snus instead of cigarettes from the outset (see our in-depth case study exploring the situation in Norway).

These population-level trends challenge the so-called 'gateway hypothesis', often cited by critics of THR. This suggests that the use of nicotine vapes leads non-smokers, particularly young people, to start smoking. However, recent literature indicates that the hypothesis is flawed, as it fails to account for a pre-existing tendency to use nicotine. An association between vaping and smoking initiation can be better explained by a 'common liability' to use both vapes and cigarettes:[92,93,94]

> "What initially may appear to be a causal association between ENDS [electronic nicotine delivery systems, or vapes] use and cigarette smoking, is likely instead better explained by other factors (e.g. home and social environment, personality characteristics, mental health or emotional challenges) predisposing some people to use products containing nicotine in general, including both ENDS and cigarettes whether or not they used ENDS first."[95]

Further supporting this, research by Shabab et al. (2021) suggests that adolescents who experiment with vapes are less likely to transition to smoking compared to peers with similar risk profiles.[96] Population-trend modelling studies reinforce this finding, showing that youth smoking rates are lower now than they would be if vaping did not exist.[97,98,99,100] What this evidence suggests is that vaping may actually *divert* young people away from smoking cigarettes. The availability of SNP may in fact reduce the initiation of smoking, rather than increasing it.

In summary, the existing research on the substitution effect of SNP suggests that their availability reduces smoking prevalence and overall cigarette consumption through three key mechanisms:

- as a smoking and nicotine cessation aid, enabling people to first quit combustible tobacco, and then quit nicotine use, by reducing their intake over time.
- as a long-term alternative to cigarettes, for people who are unwilling or unable to give up their consumption of nicotine entirely, and who would otherwise return to smoking.
- as an alternative product for new nicotine users, who would otherwise start smoking.

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In the following sections, we'll try to quantify the global progress in THR by assessing the current and projected extent of the substitution effect and where it is occurring, using two main sources: market and prevalence data.

Market data provide insight into overall trends in tobacco and nicotine consumption. But these data primarily reflect economic activity, and when measured in value (currency), they can be distorted by fluctuations in absolute and relative product prices. Additionally, market data may be affected by factors such as population changes or the inability to capture illegal markets. This means that in countries with dynamic demographics or a significant share of illicit markets, changes in market data do not necessarily reflect changes in consumer behaviour and preferences. Despite these limitations, research suggests that market indicators can still serve as useful estimators of changes in prevalence.[101,102]

To gain the fullest picture possible, the addition of prevalence data is therefore crucial. Prevalence data directly measure the proportion of the population who are at risk of smoking-related diseases. This enables targeted interventions and the planning of THR strategies. They also provide a clearer picture of behaviour change and its impact on health, making these data a more reliable indicator for assessing and improving public health. Unfortunately, high-quality prevalence data are often scarce, and the data available frequently lack information on consumption levels (for example, smoking or product use intensity) or dual use. This makes it difficult to fully capture the extent to which combustibles are being substituted by SNP.

Replacement of cigarettes by SNP: evidence from the markets

The most effective way to use market data to assess the substitution of cigarettes by SNP is to track volume characteristics (e.g., the number of products used, measured in sticks, kilograms, millilitres, etc.).

This is relatively straightforward for HTP, as both HTP and cigarettes can be measured in sticks. However, comparing volume characteristics is more difficult in the case of cigarettes and nicotine vapes, because they are measured in different units - sticks and millilitres of vape liquid - and the nicotine concentration of vape liquid can also vary significantly, further complicating the comparison.

People also buy their vaping devices separately from the nicotine they consume in it, contained in vape liquid. When people buy cigarettes, the nicotine is contained in that one product. This poses problems for the researcher. Should cigarette sales volume be compared with vape device sales or vape liquid sales? Single use devices present a further complication. How do you compare a single use vaping product that may be used over several days and a cigarette that is smoked in five minutes, with average consumption at around ten per day?

For these reasons, to compare the market trends for combustible tobacco products versus SNP, we are using value instead of volume in the following graphs, with the value standardised to a single currency (USD) and adjusted for inflation. This method has its drawbacks. Firstly, inflation rates can vary significantly between countries. Secondly, cigarette price inflation often surpasses general inflation due to increasing excise tax rates. Additionally, because of continuous technological progress that may reduce SNP production costs, cigarette price inflation likely outpaces SNP price increases.

Bearing these limitations in mind, our calculations nevertheless throw up a number of interesting findings. Market estimates show that, although the nominal value of combustible tobacco sales increased from $752 billion in 2015 to over $1 trillion in 2024, when adjusted for inflation (assuming a constant currency value), combustible tobacco sales actually decreased to $685 billion in 2024. This reflects an 8.9% decline from 2015.

In contrast, inflation-adjusted SNP sales, which include snus, nicotine vaping products, HTP and nicotine pouches, grew nearly sixfold from 2015. In non-adjusted terms, the SNP market reached $96 billion in 2024.

This growth indicates that SNP have moved beyond their niche status. In 2015, SNP accounted for only 1.4% of the total tobacco and nicotine market. By 2024, this figure had increased to 8.8%, with HTP at 4.2%, nicotine vaping products at 3.2%, nicotine pouches at 1.1%, and snus at 0.3%.

While the global combustible tobacco market is valued at $1 trillion, China's tobacco market alone accounts for an astonishing $344 billion of this total. Yet despite being the global centre of production for nicotine vapes, the market for all SNP in China is extremely small, valued currently at $4 billion. This may sound sizeable in isolation, but it is equivalent to less than 1.2% of the Chinese market for combustibles.

If we remove China's data from our calculations, the scale of the acceleration in the global SNP market becomes clear: it has reached 12.3% of the total market in 2024 – a massive increase from virtually zero in 2004. Our projections, based on Euromonitor 2021 data and linear extrapolation, suggest that SNP sales could reach $167 billion by 2030. This would increase SNP's market share to 13.6% globally, or 16.8% if China is excluded.

These trends suggest that while combustible tobacco sales remain significantly higher than SNP sales, two key shifts are occurring in the tobacco and nicotine market: the share of SNP in the total tobacco and nicotine market is increasing, and inflation-adjusted combustible tobacco sales are declining, while SNP sales are experiencing rapid growth.

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HTP are experiencing accelerating growth, and are among the fastest-growing SNP globally

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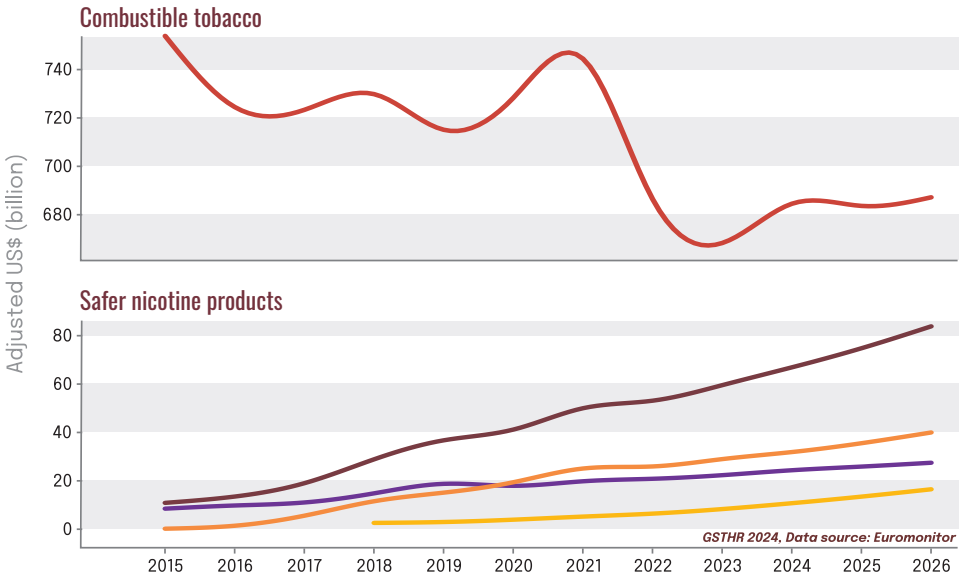
cigarette sales have fallen in all regions except Asia Pacific and the Middle East and Africa, while SNP sales are rising across all regions

It should be noted that most of these changes have been in high-income countries (HIC): consumers have more disposable income, access to online sales, fewer restrictions on SNP, and higher public awareness of the risks associated with smoking.

Changes in combustible tobacco and SNP markets



Combustibles
Combined value of all SNP
Snus and nicotine pouches
Nicotine vaping products
Heated tobacco products

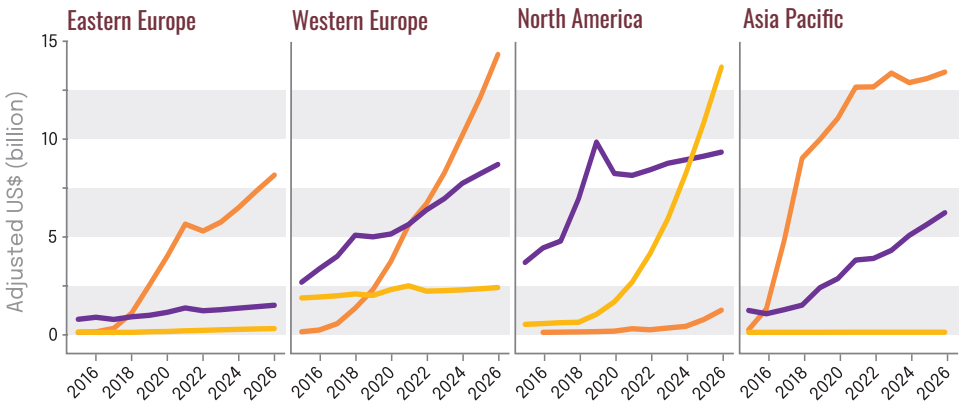
Source: Authors' estimates based on Euromonitor International. (2021, December 23)[103]

Our analysis of changes in the market value of SNP across various regions reveals several key trends (see charts below). HTP emerge as the most popular type of SNP in Western Europe and Asia Pacific, with a projected market value of approximately $22 and $21 billion, respectively, by 2026. HTP also dominate the markets in Eastern Europe, Latin America, the Middle East, and Africa, indicating a significant consumer shift towards these products. In all these regions, HTP are experiencing accelerating growth, and are among the fastest-growing SNP globally.

In North America, nicotine pouches stand out as the leading SNP market segment, with a projected value slightly above $20 billion by 2026. The snus market, however, is only expected to reach about $1 billion. Notably, nicotine pouches, which were absent in 2015, have shown exponential growth, and are expected to surpass vaping market values in North America by 2024.

However, there are regions where certain products remain commercially unknown. Nicotine pouches and snus report zero market value in Australasia, Eastern Europe, Latin America, and the Middle East and Africa. This suggests either a lack of consumer adoption, or the absence of legal market availability in these areas. In Australasia, Latin America, and the Middle East and Africa nicotine pouches and snus have shown little to no change, maintaining a negligible presence throughout the years analysed.

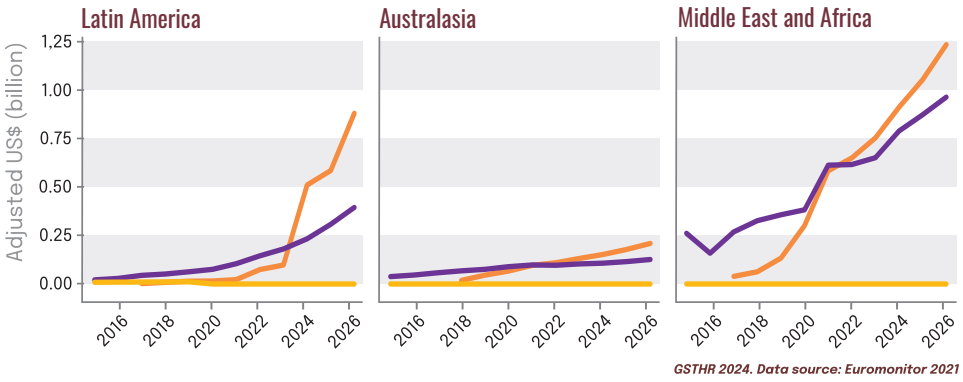
Changes in SNP markets in regions with larger SNP markets



Heated tobacco products
Nicotine vaping products
Snus and nicotine pouches

Source: Authors' estimates based on Euromonitor International. (2021, December 23)[104]

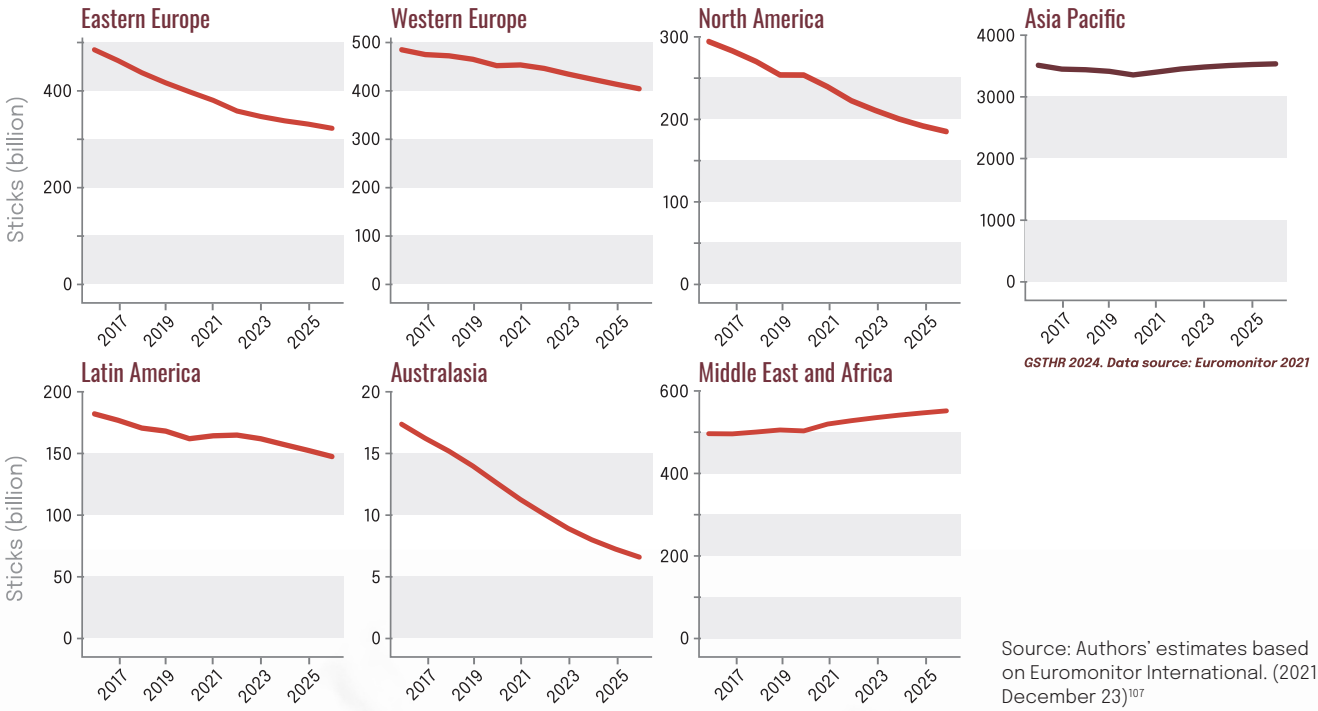
Changes in SNP markets in regions with smaller SNP markets



Source: Authors' estimates based on Euromonitor International. (2021, December 23)[104]

Comparing the charts for SNP (inflation-adjusted value) with those for cigarette sales (number of sticks), cigarette sales have fallen in all regions except Asia Pacific and the Middle East and Africa, while SNP sales are rising across all regions. Although this is a positive indicator for the advance of THR, it is difficult to establish a direct association between the rise in SNP sales and the decline in cigarette sales at a regional level. The lack of association in some regions may be due to regional specifics, individual country characteristics, or differences in sales measurement (inflation-adjusted sales versus cigarette sticks). For instance, in the Middle East and Africa, the growing sales of both cigarettes and SNP may be attributed to factors such as rapidly increasing populations, rising disposable income, the increased presence of the tobacco industry, and less restrictive tobacco control measures compared to the rest of the world.[105,106]

Changes in cigarette sales by regions



Source: Authors' estimates based on Euromonitor International. (2021, December 23)[107]

SNP market structure and geographical allocation

It is important to note that the global SNP market is undergoing notable changes. According to market estimates, the dominance of nicotine vaping products in the SNP market ended in 2020, when HTP became the market leader by value. This shift was driven by both an increase in the number of HTP users and the fact that HTP are generally more expensive than nicotine vaping products. According to Euromonitor's 2021 data, about 21 million HTP devices were sold in 2020, with this number expected to reach approximately 55 million by 2026. Assuming the number of HTP devices corresponds to the same number of HTP users, this product still significantly lags behind the number of vapers, as we estimate below.

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projections suggest that the global value of nicotine vapes will reach approximately $53.3 billion by 2030, while the global value of HTP is expected to reach $80.4 billion

•

the US is projected to remain the largest market for nicotine vapes – and with high sales of both nicotine pouches and snus as well, it accounts for more than a quarter of global SNP sales

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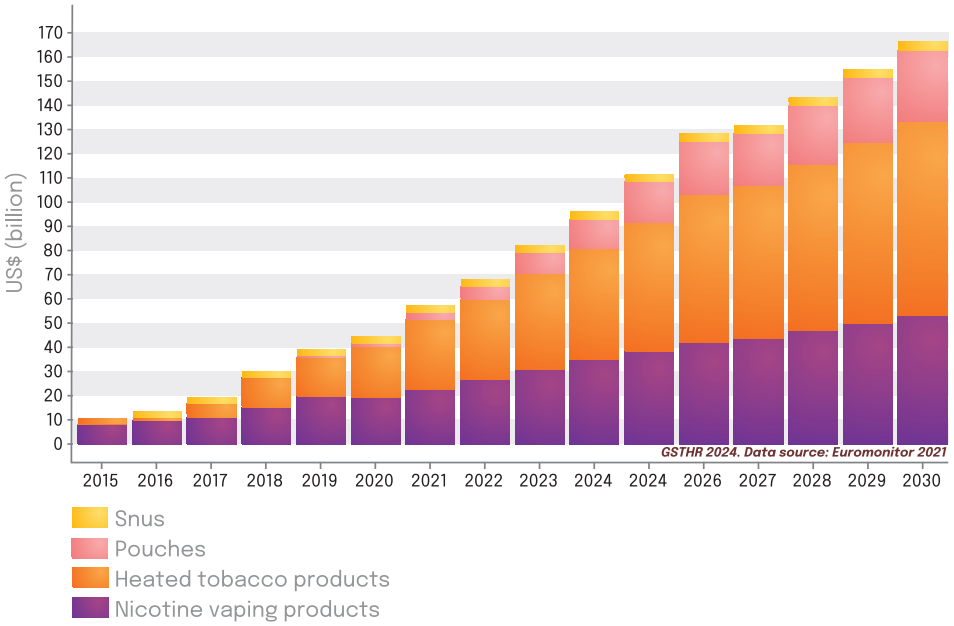
HTP sales in Italy and Germany are accelerating rapidly, with combined sales expected to match those of Japan by 2026

Changes in SNP market



Source: Authors' estimates based on Euromonitor International. (2021, December 23)[108]

The growth in the number of HTP consumers has been driven by rapid penetration in Western and Eastern Europe, alongside continued growth in the Asia Pacific region, particularly in Japan. Projections based on Euromonitor's 2021 data suggest that the global value of nicotine vapes will reach approximately $53.3 billion by 2030, while the global value of HTP is expected to reach $80.4 billion. This will account for nearly 32% and 48% of the global SNP market respectively.

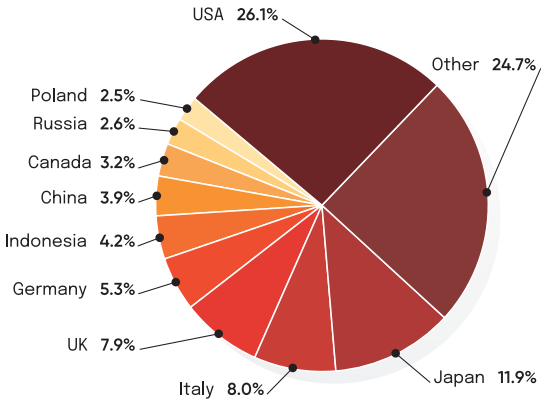
The US, a focal point for SNP-related developments, is projected to maintain its position as the largest market for nicotine vaping products. Additionally, the US is the largest market for nicotine pouches and the second-largest market for snus, giving it a leading role in the global SNP market through 2026, accounting for more than a quarter of global SNP sales. Meanwhile, Japan continues to lead in HTP sales; however, its share in the global HTP market value is expected to decline gradually from 39% in 2021 to 25% in 2026. This decline is due to accelerating HTP sales in other countries, particularly Italy and Germany, where combined sales are projected to match those of Japan by 2026.

As described earlier, snus use in Sweden has seen dramatic growth, largely due to increased awareness about its relative safety in comparison to smoking. Recognition among consumers of the relative safety of nicotine once decoupled from the cigarette has similarly generated a market for nicotine pouches, which

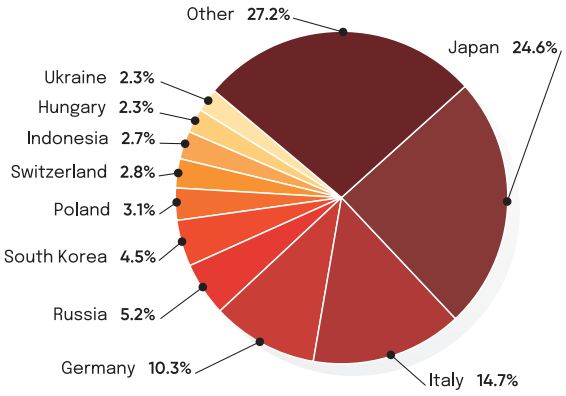
allow for discreet consumption in places where use of other safer nicotine products might be prohibited.

The major tobacco companies have now entered the nicotine pouch market, including: Swedish Match, with brands Zyn and Volt, now owned by PMI; BAT, with Lyft and Velo; Imperial Tobacco, with Skruf, Zone X, and Zonnic; JTI with Nordic Spirit; PMI with Shiro; and Altria, with On!. However, smaller companies are increasingly involved in pouch manufacturing. In Iceland, a non-tobacco company, IcePouch, sells the market-leading product, while Sweden has seen the growth of several non-tobacco company pouch start-ups.

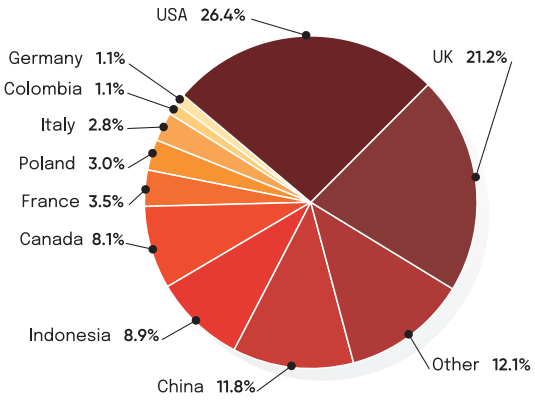
Estimated SNP market share by country in 2026



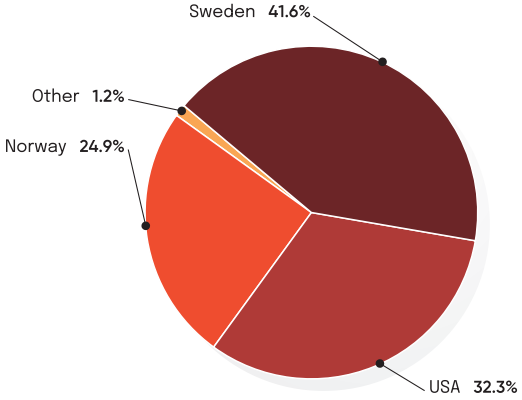
Estimated HTP market share by country in 2026



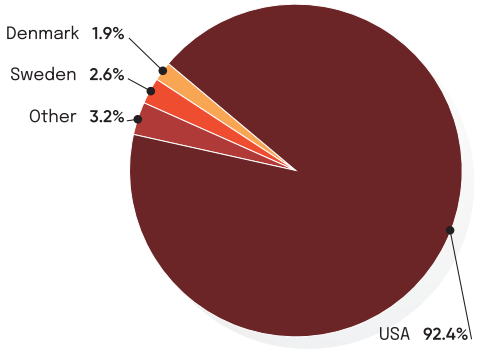
Estimated nicotine vape market share by country in 2026



Estimated snus market share by country in 2026



Estimated nicotone pouches market share by country in 2026



GSTHR 2024. Data source: Euromonitor 2021

Source: Authors' estimates based on Euromonitor International. (2021, December 23)[109]

Single-use vapes: disrupting the disruption?

Of course, Hon Lik's original product was actually the first single-use vaping product. But as noted earlier, the early cig-a-likes were unsatisfactory and often expensive. Their flaws led to years of product development and innovation, with refillable or pod systems ultimately coming to dominate the vape market. Or they did, before the arrival of a very different type of disposable vaping product.

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the fact that the FDA was prioritising enforcement against flavoured prefilled cartridges led many vapers to switch to disposable options

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single-use vaping product market share in the US increased from 24.7% to 51.8% between January 2020 and December 2022

•

the vaping industry quickly went on the front foot

If the arrival of nicotine vapes in 2004 was disruptive for the tobacco industry, the more recent explosion in the spread of single-use vaping products has taken things a step further. It could be characterised as 'disrupting the disruption'. This latest shock has not only affected the non-combustible businesses of large tobacco companies, but also some of the established major vaping industry players.

The disposable products that emerged as we entered the 2020s came at a perfect time. As global awareness of vaping was increasing, so was demand. And many new users do not want to be bothered with complicated gadgets. They want to consume nicotine in a way that is significantly safer than smoking, with something that is easy to operate, cheap, and available in a variety of flavours. And that is exactly what the new breed of disposable vapes offered.

There is no doubt that the rise of the disposables has been both dramatic and fast. Single-use vaping product market share in the US increased from 24.7% to 51.8% between January 2020 and December 2022.[110,111] In the US at least, regulatory changes have played a significant role in this shift. For example, the fact that the FDA was prioritising enforcement against flavoured prefilled cartridges led many vapers to switch to disposable options.

It was inevitable that the popularity of disposables would catch out some of the major transnational tobacco companies. Single-use vaping products have posed an even bigger threat than JUUL did. Even some of the major Chinese vaping companies like SMOOR, who take pride in their track record of innovation, failed to see them coming.

But the vaping industry quickly went on the front foot. Backed by years of product development experience, Chinese manufacturers such as RELX, Vaporesso, Smok, Oxva, Ecigator, Voopoo and others added to their existing product portfolios and began producing what are now the world's leading disposable brands.

The rise of the single-use vape has brought with it increased concerns over youth vaping (discussed further in Chapter Five) and the products' negative environmental impact. Discussions are underway about electrical waste disposal, incentivising the return of used vapes and moves towards recyclable disposables, while some retailers have been offering guidance on recycling.[114] These actions alone, however, while welcome, are unlikely to match the scale of the issue.

Evidence from key HTP markets

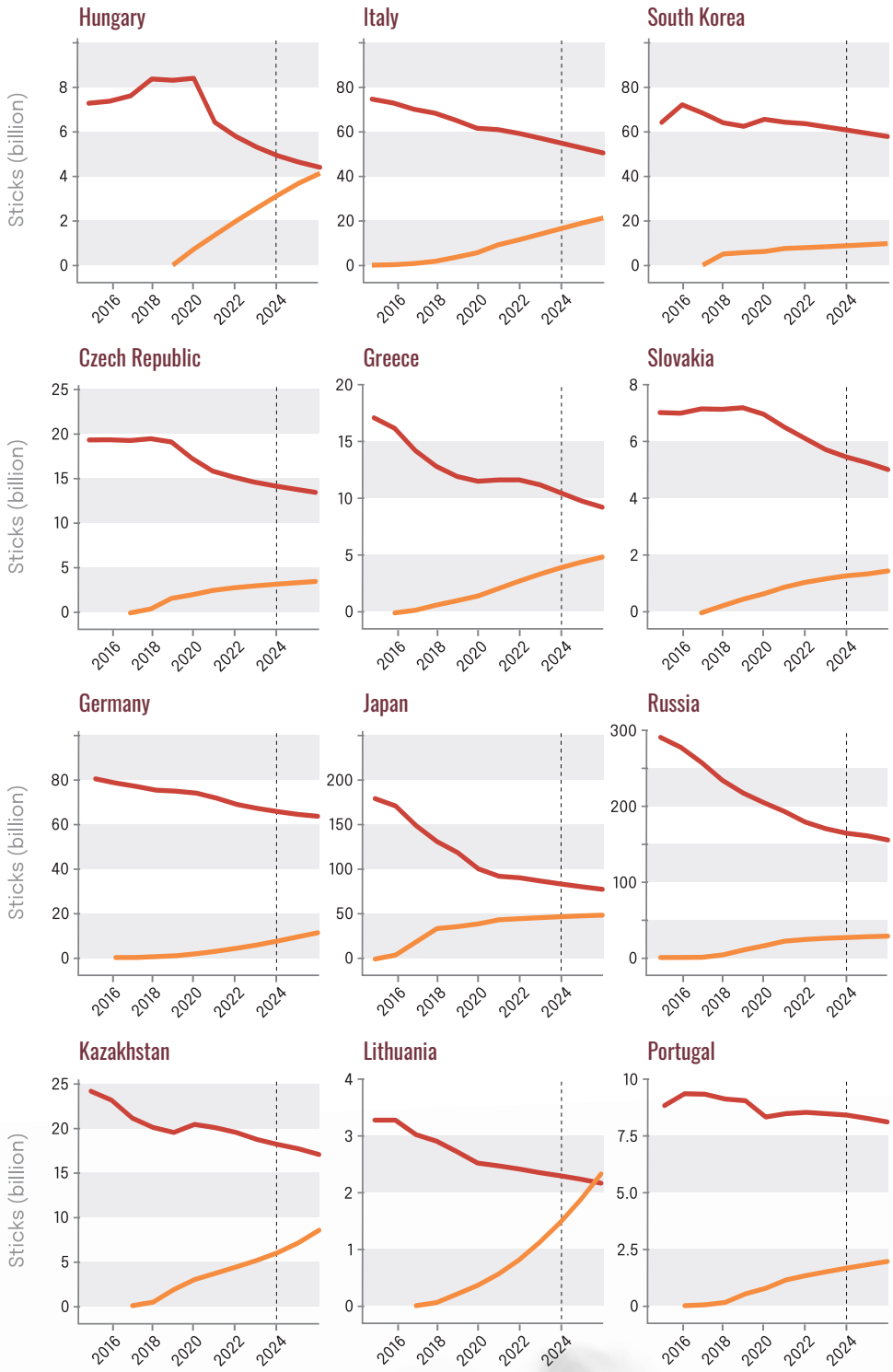
As highlighted in the previous section, HTP sales have experienced remarkable growth recently. This has been seen not only in Asia Pacific (specifically Japan, see in-depth country profile) but also in Western and Eastern Europe. Analysis of data from places where HTP sales are rapidly increasing is required to understand these trends better.

The following figures present data on retail volume sales of cigarettes and HTP, both measured in sticks. This allows for more straightforward conclusions than sales value (currency) data. However, it is important to note that one HTP stick may not be a perfect substitute for smokers, as it contains a lower dose of nicotine than one cigarette.[115] This suggests that people who switch from smoking may use more HTP sticks per day than the number of cigarettes they previously smoked, based on nicotine volume.

Market data indicate that HTP popularity is accelerating in many countries, coinciding with a decline in cigarette sales. This suggests a substitution effect. These countries can be categorized into several groups:

- Approximately one-to-one substitution of HTP sticks for cigarettes: Hungary, South Korea, Italy, Germany.
- Cigarette sales drop faster than HTP sales increase: Slovakia, Czech Republic, Russia, Japan, Greece.
- Cigarette sales drop slower than HTP sales increase: Kazakhstan, Lithuania, Portugal.

Retail volume of cigarettes and HTP markets in selected countries



Source: Authors' estimates based on Euromonitor International. (2021, December 23)[116]

market data indicate that HTP popularity is accelerating in many countries, coinciding with a decline in cigarette sales - suggesting a substitution effect

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Lithuania is the only country where HTP sales are projected to surpass cigarette sales by 2026, with Hungary also nearing this milestone

•

in Sweden there is a strong negative correlation between the sales of cigarettes and snus

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snus has been a significant substitute for cigarettes over many years in Sweden

Lithuania stands out as the only country where HTP sales are projected to surpass cigarette sales by 2026, with Hungary also nearing this milestone. Remarkably, the rate of HTP adoption and cigarette substitution in these countries is outpacing even Japan.

Despite positive market dynamics, the EU Delegated Directive, which aims to ban all flavours in HTP, could significantly impact sales.[117] The Directive is currently being challenged in court; the outcome will be crucial in determining the future of cigarette substitution by HTP in the EU.

Longer term evidence for substitution in Scandinavia

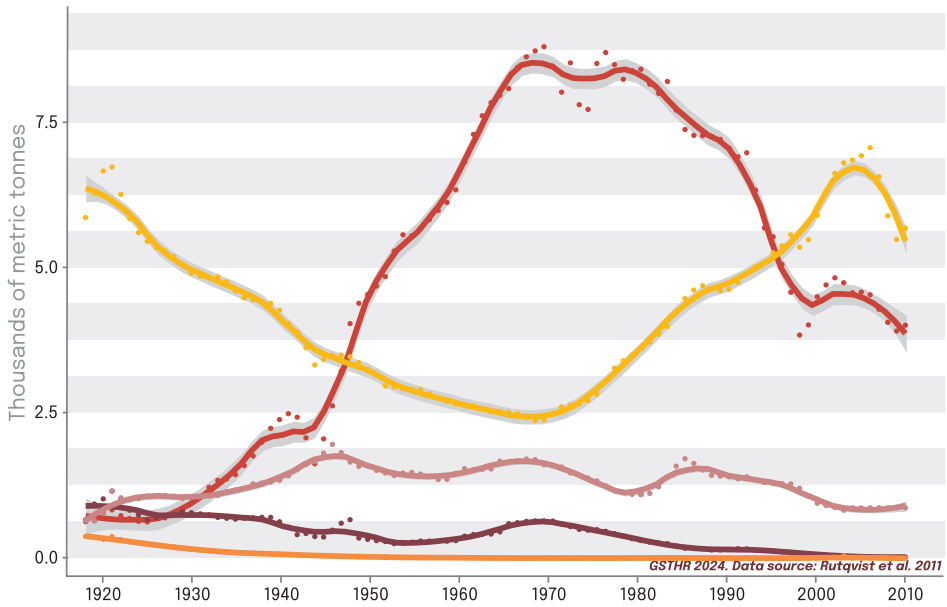
While the market data above focus on recent history and future projections, Sweden offers a long-term perspective on the substitution of combustible tobacco by safer products. The article "Swedish snus and the GothiaTek® standard" by Rutqvist et al. (2011), analyses the consumption of various tobacco products from 1915 to 2011, including cigarettes, cigars, pipe and RYO (roll-your-own) tobacco, snus, and other forms of smokeless tobacco.[118]

The graph below tracks the consumption of these products in metric tonnes. It shows that cigarette consumption peaked around 1920, then decreased until the mid-1930s before sharply increasing again and reaching its highest point in the 1970s, followed by a steady decline up to 2011. Cigar consumption rose until about 1920, then dropped sharply and remained low but stable, with slight changes over time. The use of pipe and hand-rolled cigarettes slightly increased until the 1940s, then stabilised at a low level with minor fluctuations.

Notably, snus consumption, which was initially low, increased steadily, peaking in the 1980s before gradually falling toward 2011. The consumption of other smokeless tobacco products started to rise significantly in the 1970s, reached a peak around 2000, and then began to decrease, although with some fluctuations.

From these data, we see that there is a strong negative correlation between the sales of cigarettes and snus: as snus sales decreased, cigarette sales increased between 1920 and 1970. Conversely, an increase in snus sales

Tobacco sales in Sweden from 1916-2006 according to product category



Source: Rutqvist et al. (2011)[119]

corresponds with a decline in cigarette sales after 1970. This pattern suggests that snus has been a significant substitute for cigarettes over many years in Sweden.

The complicating factor of illicit markets in nicotine products

It is important to acknowledge that our market data for SNP relate only to the legal sale of these products. However, in many countries, there are significant illicit markets in nicotine-containing products. We are not referring to these products as 'safer nicotine products' as the lack of certainty over their contents means that their safety cannot be guaranteed.

Many high-demand consumer products have illicit counterparts. Goods can be considered illegal because they are illegally manufactured, because they have been smuggled into a country to avoid taxation, or because the product category is prohibited in the country.

Illegal vapes are especially prevalent in countries such as Australia, Mexico and Brazil which have blanket bans. However, they are also common in countries such as the UK which have a more proportionate control regime. Sales may take place from individuals on the street (perhaps alongside other substances), on market stalls, or via social media platforms.

Illegal products will often be cheaper than regulated versions bought from legitimate shops – but that may not be the only reason why people buy them. These vaping devices may also contain more e-liquid or a higher nicotine strength than is legally permitted in the country, for example. Unfortunately, there are inevitably risks to health when nicotine-containing products have been manufactured in ways that do not conform to agreed product safety standards.

High quality data on these markets and the products they trade in is naturally hard to obtain and therefore is not incorporated into our understanding of substitution effects.

Replacement of cigarettes by SNP: evidence from prevalence data

While market trends show an increase in SNP sales and a decline in cigarette sales, the critical question from a public health perspective is how these shifts affect the prevalence of smoking and SNP use. However, monitoring prevalence data globally is challenging due to limited availability and varying data quality.

A significant challenge is the inconsistent mapping of tobacco and nicotine use, largely because data collection is an extremely difficult and costly task for many countries, especially low- and middle-income countries (LMIC). The COVID-19 pandemic further complicated data collection efforts, while the inflationary pressures that followed have driven up these costs even more. Establishing a reliable trend typically requires data from at least three time points. The more data points collected, the higher the quality of the data and the more robust the conclusions. However, this also increases the cost of data collection.

As of the latest available data, 66 countries have conducted surveys on vaping, and this information has been used to estimate global vaping prevalence.[i] We have extended these estimates to approximately 200 countries where direct survey data might be missing, using statistical methods and country-specific characteristics.[120] However, the precision of these estimates varies, particularly in regions with fewer surveys, such as Africa and South-East Asia. Even within those 66 countries, only a few conduct these surveys consistently and with enough frequency to establish reliable trends.

Table 1 Changes in prevalence of current vaping

Country name	Year range	Nicotine vaping product use (%)
Estonia	2017 - 2023	1.0 → 9.0
Latvia	2017 - 2023	1.0 → 8.0
United Kingdom	2012 - 2022	1.7 → 8.7
New Zealand	2016 - 2021	2.0 → 8.2
Lithuania	2017 - 2023	1.0 → 5.0
Ireland	2017 - 2023	4.0 → 8.0
Poland	2017 - 2023	1.0 → 4.0
France	2017 - 2023	4.0 → 7.0
Slovenia	2017 - 2023	1.0 → 3.0
Luxembourg	2017 - 2023	2.0 → 4.0
Bulgaria	2021 - 2023	1.1 → 3.0
Slovakia	2021 - 2023	1.3 → 3.0
Italy	2021 - 2023	1.4 → 3.0
Philippines	2015 - 2021	0.8 → 2.1
Croatia	2021 - 2023	0.9 → 2.0
Spain	2017 - 2023	1.0 → 2.0
Malta	2017 - 2023	2.0 → 3.0
Denmark	2017 - 2023	2.0 → 3.0
Cyprus	2017 - 2023	3.0 → 4.0
Austria	2017 - 2023	3.0 → 4.0

Source: WHO: Global report on trends in the prevalence of tobacco use 2000-2025, Fourth edition[121]; Special Eurobarometer 458[122], 506[123], 539[124]; ECigIntelligence[125].
Note: Countries are listed in order of the magnitude of change in nicotine vaping products use in percentage points.

[i] These countries include Argentina, Australia, Austria, Bangladesh, Belarus, Belgium, Brazil, Bulgaria, Canada, Chile, China, Colombia, Costa Rica, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Israel, Italy, Japan, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Malaysia, Malta, Mexico, Netherlands, New Zealand, Norway, Pakistan, Paraguay, Peru, Philippines, Poland, Portugal, Romania, Russian Federation, Saudi Arabia, Serbia, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Ukraine, United Arab Emirates, United Kingdom, United States, Venezuela.

Another important factor in understanding smoking versus SNP prevalence is the extent of dual use, where individuals use both combustible tobacco products and SNP. Unfortunately, dual-use data are not widely published. Even when surveys include questions on both smoking and SNP use, it is uncommon for this information to be combined in published statistics. Since raw survey data is often not publicly available, it is difficult to produce such statistics later. Furthermore, dual use is a dynamic process, often common at the beginning of the transition to SNP but usually diminishing over time as users settle on one product or the other. Current data are limited, but recent studies indicate that up to 30% of HTP users in Japan also smoke, while 38% of vapers in the UK and over 46% in Mexico are dual users.[126,127]

Despite these challenges, available data suggest that the prevalence of the use of various SNP, particularly nicotine vaping products, is on the rise across multiple countries. The data reveal consistent increases in e-cigarette use, with Estonia and Latvia recently experiencing the largest gains, at 8 and 7 percentage points, respectively. The United Kingdom and New Zealand also showed substantial growth, with increases of 7 and 6.2 percentage points. Countries such as Lithuania, Ireland, Poland and France witnessed more moderate rises ranging from 4 to 3 percentage points, while other countries saw smaller increases (see table below).

Moreover, there is strong evidence of an association between the rise in SNP use and a corresponding decrease in smoking prevalence. For instance, in Sweden, daily tobacco smoking rates dropped dramatically from 15.6% in 2003 to 6.3% in 2023, while daily snus use increased to 17.5% during the same period. Similarly, Norway witnessed a significant rise in daily snus users, increasing from 5.0% in 2005 to 16.0% in 2023, which coincided with a sharp decline in daily smoking from 25.0% to 7.0%.

New Zealand also demonstrated a notable pattern, with smoking rates plummeting from 28.9% in 2000 to 10.9% in 2021, while vaping is set to rise from 2.0% in 2016 to a projected 13.0% in 2025. In the UK, smoking prevalence is forecast to decrease significantly from 24.0% in 2005 to 10.8% in 2025, while vaping rates are set to increase to 10.0% over the same period. Similar trends are observed in other countries, including the US, Ireland, Luxembourg and the Philippines (and to a lesser extent, Austria and Lithuania) where smoking rates have declined while vaping rates have risen.

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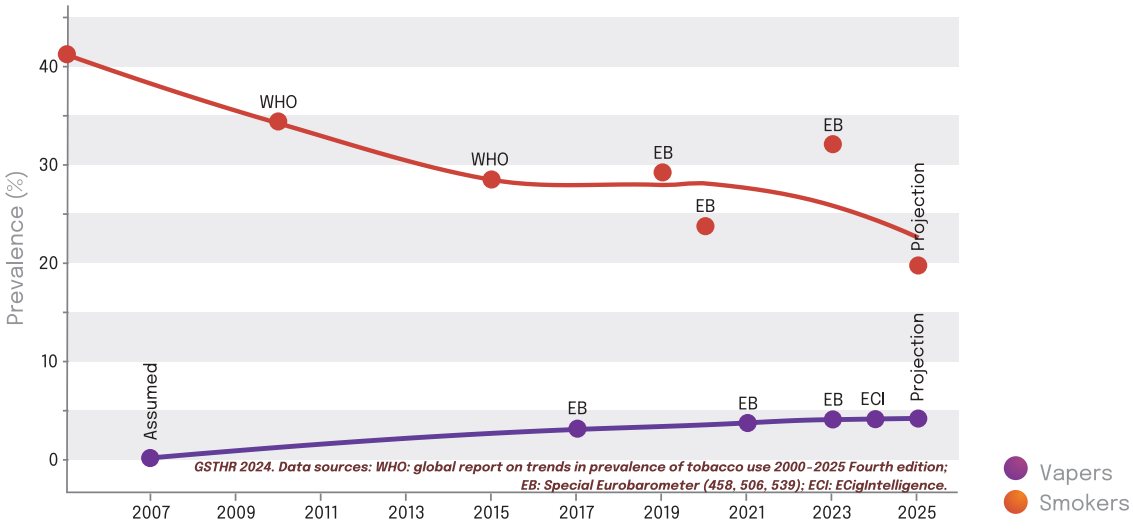
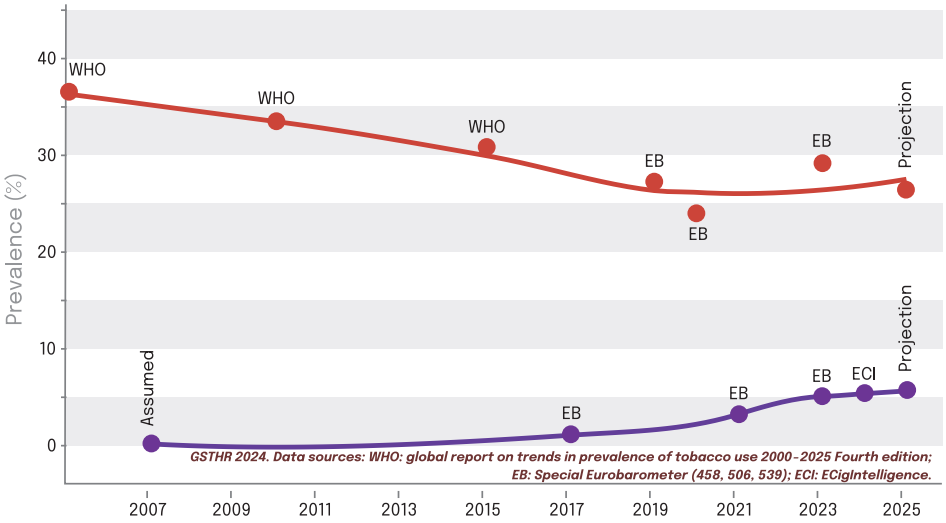
both prevalence data and market data provide further convincing evidence of substitution effects in multiple countries across a number of regions

Prevalence of smoking and vaping in Austria, 2007-2025

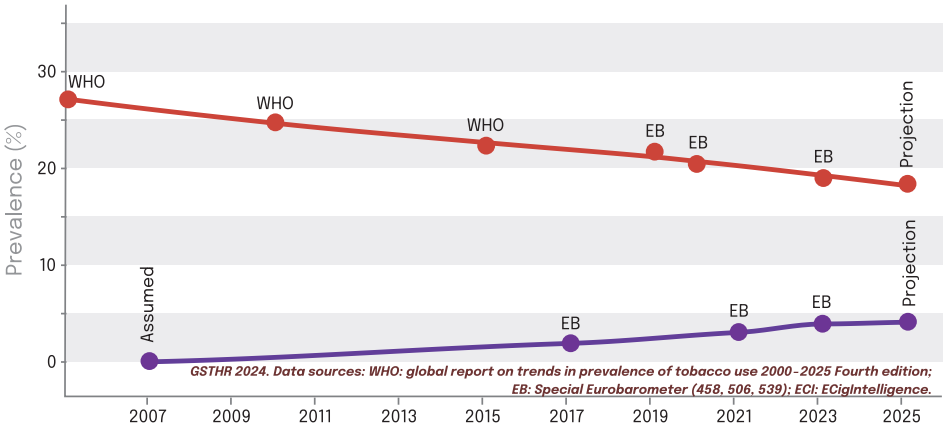


Prevalence of smoking and vaping in Lithuania, 2007-2025



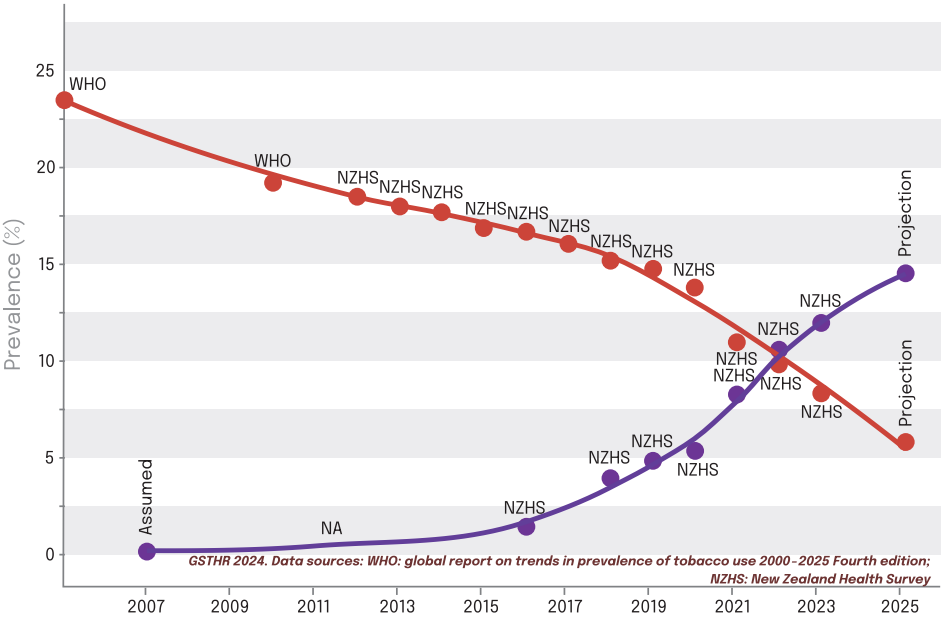
Vapers
Smokers

Prevalence of smoking and vaping in Luxembourg, 2007-2025



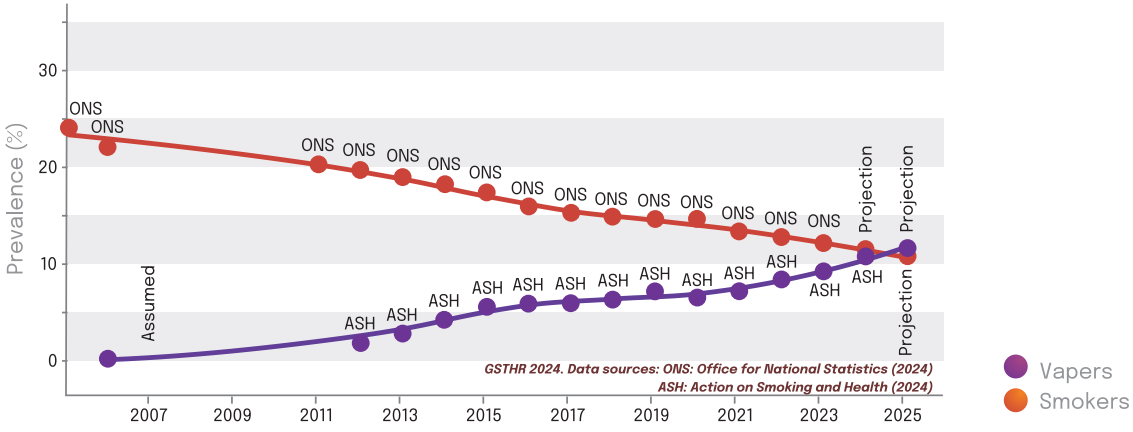
Vapers
Smokers

Prevalence of smoking and vaping in New Zealand, 2007-2025

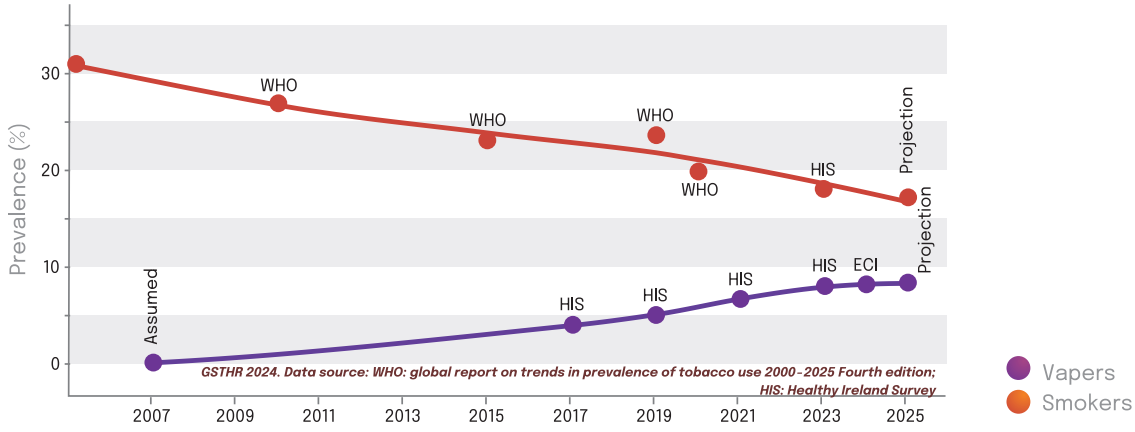


Vapers
Smokers

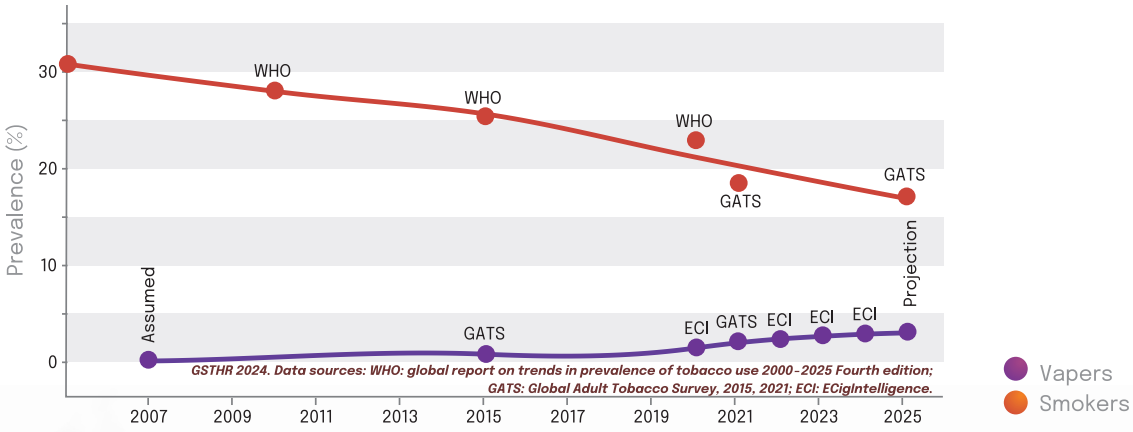
Prevalence of smoking and vaping in the UK, 2007-2025



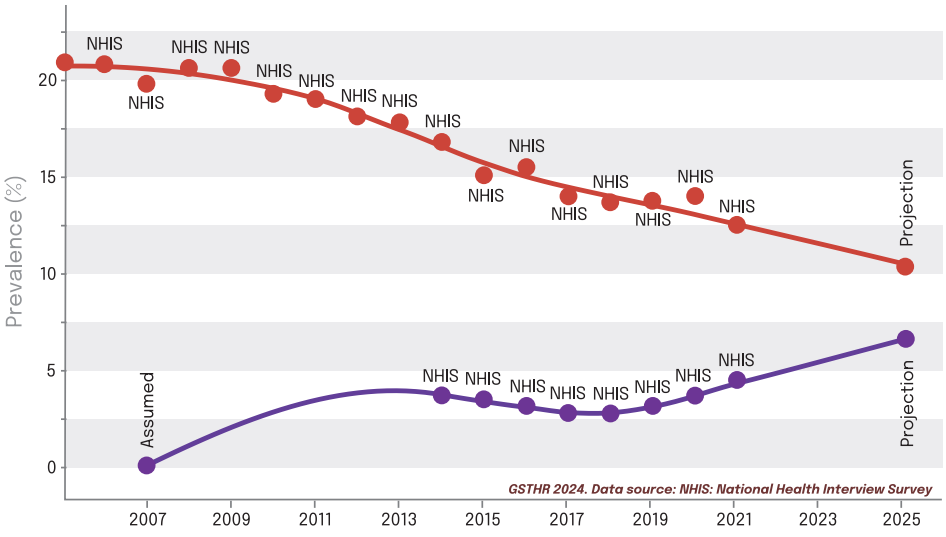
Prevalence of smoking and vaping in Ireland, 2007-2025



Prevalence of smoking and vaping in the Philippines, 2007-2025

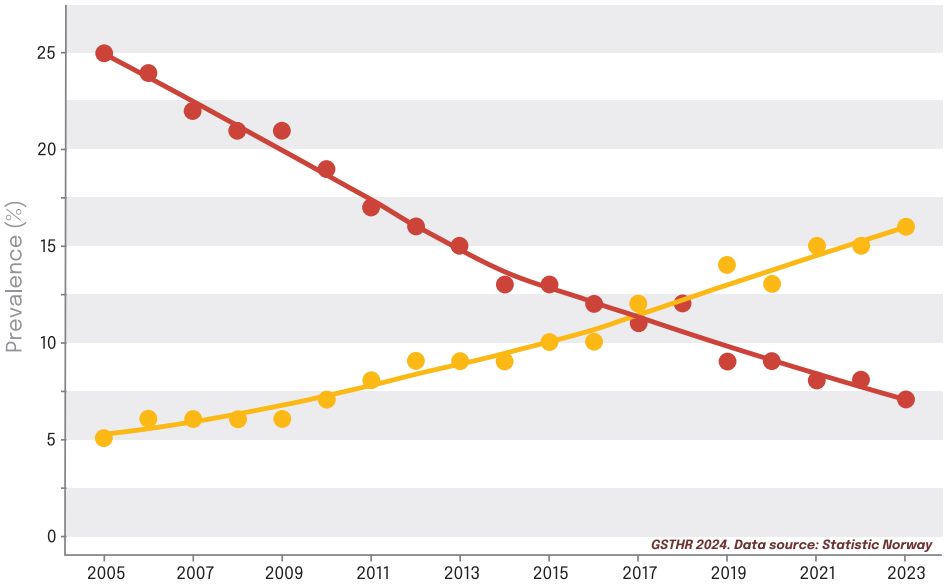


Prevalence of smoking and vaping in the USA, 2007-2025



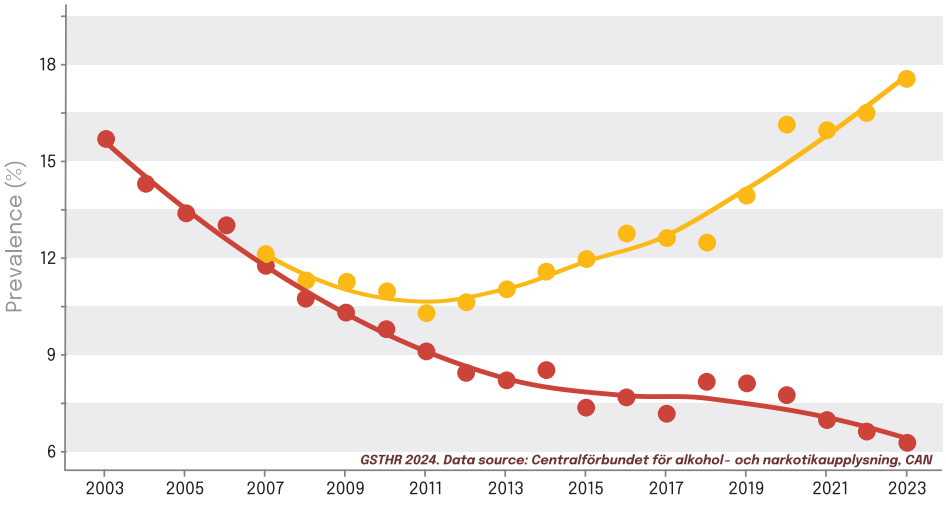
Vapers
Smokers

Prevalence of smoking and snus use in Norway, 2005-2023



Daily users of snus
Daily smokers

Prevalence of smoking and snus use in Sweden, 2005-2023



Daily users of snus
Daily smokers

Therefore, we can see that both prevalence data and market data provide further convincing evidence of substitution effects in multiple countries across a number of regions. As we have explored so far in this report, the last two decades have seen significant progress in the growth of SNP markets and product development, particularly in HICs. What we are able to demonstrate here is that this progress is reflected in the extent to which people who smoke have responded by substituting a range of SNP for combustible tobacco.

It is important to acknowledge that this substitution is not limited to current smokers switching to SNP. It also includes new nicotine users who are choosing SNP over cigarettes from the outset. Turn to Sections Four to Seven for some closer analysis into substitution effects in the UK, Norway, Japan and New Zealand - four of the countries that have experienced the most significant changes in nicotine and tobacco consumption since the advent of SNP.

Changes in the number of vapers globally

Obtaining global estimates of vaping product use prevalence is challenging for several reasons, as outlined by the GSTHR team in this article by Jerzyński and Stimson (2023):

- Information on vaping and other nicotine product use is unavailable for over half of the world's population.
- Existing surveys often employ different definitions and methodologies, complicating data standardisation across countries.
- Some surveys rely on convenience samples or market data, which do not necessarily reflect actual usage patterns.
- Surveys are conducted infrequently or as one-time events, limiting the ability to track changes over time and adjust estimates accordingly.[129]

In our article 'Estimation of the global number of vapers: 82 million worldwide in 2021', we employed a method of assumed similarity for countries with missing data. We averaged the prevalence of vaping across WHO regions, World Bank income classification groups, and the legal status of e-cigarettes in each country. These averages were then applied to the adult population estimates provided by the United Nations for each country.

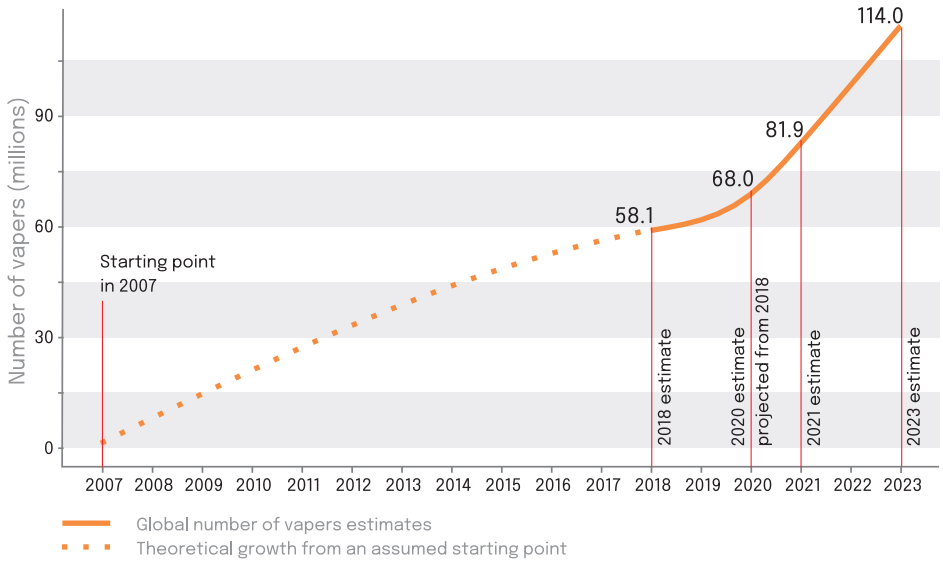
The prevalence data were adjusted based on the year of the surveys and the market value growth rates of e-cigarette sales from 2015 to 2021. For regions lacking recent survey data, the market growth rate was used to project the prevalence of vaping from the most recent available data. This approach involved correlating market size with prevalence using a coefficient, derived from the relationship observed in two countries (the UK and New Zealand) with available data.

The estimates also included an adjustment for market feedback to account for potential discrepancies between market size and actual consumption. The final global estimate for 2021 was approximately 82 million vapers, with regional variations reflecting the differing market growth rates and survey data availability.

In 2024, the estimates were updated on the basis of new data that emerged after 2021. The forecasting method has also been improved to produce more precise results. According to our new estimates, the global number of vapers increased to 114 million in 2023.

according to the GSTHR's new estimates, the global number of vapers increased to 114 million in 2023

Estimated global number of vapers



Source: Authors' updated estimates based on Jerzyński, T. and Stimson, G.V. (2023)[130]

will an increase in the use of SNP and a decline in smoking lead to health gains?

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all models indicated that the introduction of SNP could have a beneficial effect on population health by reducing smoking-related mortality

•

one calculation saw up to 6.6 million fewer smoking-attributable deaths in the US between 2016 and 2100 as a consequence of people switching from smoking to vaping

•

data suggests that in the UK, the majority of the reduction in male smoking between 2012 and 2019 was due to vaping, resulting in 165,660 averted deaths by 2052

Lives saved due to SNP

From a public health perspective, what does this increase in SNP use mean? We now focus on their potential to reduce morbidity and mortality related to smoking. Will an increase in the use of SNP and a decline in smoking lead to health gains?

In 2021, Lee et al. reviewed 13 studies modelling the potential health impacts of SNP on mortality.[131] Four studies focused exclusively on nicotine vaping products, while others covered a broader range of products, using terms such as modified risk tobacco product (MRTP), new nicotine product, or new tobacco product. Six studies were supported by tobacco companies and seven by public funding. Except for one UK study, all other models focused on the United States.

The models analysed how people transitioned between different tobacco use groups, typically categorized as never smokers, current smokers, and former smokers. Researchers used data on existing transitions between these groups (initiation, cessation, and re-initiation) to estimate how these behaviours changed over time in the population. In addition to tracking these behaviours, the models also accounted for the fact that using SNP carries a lower risk of disease and death compared to traditional smoking.

To calculate the impact of SNP, the models created two scenarios. In the first, SNP were not introduced, representing a 'null scenario'. In the second, SNP were available and used by some people, representing the 'alternative scenario'. The primary goal was to compare how the population would evolve over time in both scenarios, including factors such as how many people started or stopped smoking and how many switched to using SNP.

By examining the differences in population size between the two scenarios, the models estimated how many lives could be saved or lost due to the introduction of SNP. These changes in the simulated population numbers allowed researchers to estimate the reduction in mortality resulting from people switching from smoking to SNP use.

These models have limitations, such as considering only two products, focusing on mortality without considering morbidity impacts, ignoring demographic variables like race or socioeconomic status as risk factors, and not accounting for reductions in passive smoking or other risk factors. Despite these limitations, all models indicated that the introduction of SNP could have a beneficial effect on population health by reducing smoking-related mortality.

David Levy, a professor of oncology at the School of Medicine at Georgetown University, Washington, US, has undertaken significant research in this area. In a 2017 study, Levy and colleagues compared a 'status quo scenario', which projected smoking rates and health outcomes in the US in the absence of vaping, with several 'substitution scenarios' where cigarette use was largely replaced by vaping over a 10-year period.[132] Both scenarios were tested with optimistic and pessimistic assumptions about the relative harms of e-cigarettes compared to cigarettes, as well as their impact on initiation, cessation, and switching. The study projected mortality outcomes by age and sex in the US from 2016 to 2100. In the optimistic scenario, the researchers estimated 6.6 million fewer smoking-related deaths and nearly 87 million fewer life years lost, representing a 25% reduction in deaths and a 35% reduction in life years lost. Even in the pessimistic scenario, there were still 1.6 million fewer deaths (a 6% reduction) and 20.8 million fewer life years lost (an 8% reduction).

In another study, Levy et al. simulated the effects of nicotine vaping products on the 1997 US birth cohort.[133] Instead of assuming a complete replacement of smoking with vaping, the authors created scenarios that track vaping adoption. These scenarios follow individuals as they progress from trying nicotine vaping products to established use, and even consider dual use of both cigarettes and vapes. The model also incorporated cessation behaviours at later stages in life, providing a more realistic view of smoking and vaping dynamics. Furthermore, unlike the 2017 study that focused solely on the health impacts for smokers, this study examines how vaping among individuals who might not otherwise have smoked could influence public health. The study projected significant public health benefits from the use of nicotine vaping products, with a 21% reduction in smoking-attributable deaths and a 20% reduction in life years lost, equating to approximately 101,000 fewer deaths and 2 million fewer life years lost for the 1997 cohort.

A similar modelling study conducted by Levy and colleagues in 2021 for all US adults projected that from 2013-2060, the use of nicotine vaping products would result in 1.8 million fewer deaths (10.4% reduction) and nearly 39 million life years saved (19.9% reduction in life years lost).[134]

Finally, Levy and colleagues also estimated the impact of nicotine vaping products on smoking prevalence and the resulting smoking-attributable deaths before and after nicotine vaping product access in the US, UK and Canada.[135,136,137] Using indirect simulation models, they projected smoking trends in a counter factual (no-vape) scenario, while controlling for tobacco control policies and comparing these trends with national survey data. The analysis showed that the use of nicotine vaping products contributed to reductions in both smoking prevalence and smoking-attributable deaths in all three countries.

For example, in the UK, 20.2% of the 27.5% relative reduction in male smoking between 2012 and 2019 was attributable to nicotine vaping products, resulting in 165,660 averted deaths by 2052. In the US, half of the reduction in smoking

between 2012 and 2018 was attributable to nicotine vaping products, resulting in 400,000 averted smoking-attributable deaths between 2012 and 2052. In Canada, a 14% reduction in male smoking attributable to nicotine vaping products between 2012 and 2020 yielded 100,000 averted smoking-attributable deaths between 2012 and 2060. A similar methodological approach in Germany, carried out by Levy and colleagues, also showed substantial decreases in deaths (300,000) and life years lost (4.7 million) from 2012 to 2060.[138]

Mendez and Warner (2021) also used simulation analysis to estimate the potential of nicotine vaping products to reduce smoking-related mortality in the US.[139] Evaluating 360 possible vaping scenarios, 357 (99%) showed positive life years saved due to vaping, ranging from 143,000 to 65 million by 2100. Most scenarios predicted millions of smokers quitting due to vaping, with these quitters gaining an additional 1.2 to 2.0 years of life compared to those who quit without vaping. Later replication studies in Russia and Georgia showed similar results, with potential reductions in life years lost due to smoking reaching 18.6% and 28.9%, respectively.[140,141] However, based on current rates of nicotine vaping product use and SNP regulations in these countries, the most plausible scenarios indicated a 3-8% reduction in smoking-related life years lost.

One recent study looked away from the HIC that dominate much research, instead focusing on the potential for lives saved in Kazakhstan, Pakistan, South Africa and Bangladesh. The authors chose these countries as they are designated as LMIC and have other pressing health priorities, under-staffed health agencies, weak tobacco control enforcement and also high levels of smokeless product users, who also feature in the annual death toll of 350,000 across the four countries. The study found that by combining access to SNP with improved, earlier diagnosis and treatment of lung cancer, about 2.6 million lives could be saved in those four countries combined between 2020 and 2060.[142]

While most public health benefit models for nicotine vaping products are prospective, Sweden provides a real-world example of the effects of SNP (particularly snus) on public health. In 1981, daily smoking prevalence was 27% in Sweden. By 2022, this had plummeted to 5.3%, while daily snus use rose to 20.2% from 14% in 1982.[143,144,145] This shift significantly reduced smoking-related diseases. The rate of lung cancer cases amongst Swedish men in 2022 was less than half the European average.[146] A 2019 study linked increased snus use to a decline in smoking-related cancers, attributing nearly half of this decrease to snus.[147] Another 2019 study found that substituting smoking with snus in Sweden reduced smoking-related deaths by 50% compared to other EU countries.[148] According to the European Cancer Information System's data, Sweden has the lowest lung cancer incidence and mortality rate among men in the EU and Nordic countries, despite having overall nicotine use around the EU average, underscoring the life-saving benefits of snus.[149]

evidence suggests that SNP have a positive impact on reducing smoking-related mortality – the magnitude of that impact depends on the rate of transition to SNP

As we have shown, the evidence available from individual countries enables the formation of national projections about the impact of SNP on smoking-related morbidity and mortality, with a reasonable degree of confidence. However, as yet, global projections for the impact of SNP are currently unavailable. There are major gaps in data availability. A further significant challenge would be accounting for the vast array of cultural, socioeconomic and product availability factors and their interactions. How would these affect the transition from smoking to SNP in different countries?

But although comprehensive global estimates are lacking, we can say that evidence from both HIC and LMIC suggests that SNP have a positive impact on reducing smoking-related mortality. The magnitude of that positive impact depends on how quickly the transition from combustible tobacco to safer alternatives takes place.

Reality check

The evidence is stacking up that SNP can both improve and save lives. But if THR is to have global reach, much will depend on the actions of a few major tobacco companies and those making regulatory decisions on SNP. To what degree are the companies willing to invest in making SNP which are genuinely affordable, acceptable, appropriate and accessible to the global population of over a billion tobacco consumers? Are these companies really committed to transitioning all of their customers to safer products? Or will the regulators decide this for them, banning SNP while millions continue to smoke, allowing the tobacco companies to return to 'business as usual'?

The major companies have an infamous and egregious track record of lies and deceit over cigarette safety. This means that public trust in these companies is, unsurprisingly, virtually non-existent. As the revolution in SNP began a process of creative destruction on the tobacco industry, it was inevitable that the companies would get involved in the manufacture and sale of SNP. But this involvement has brought that lack of public trust with it.

Campaigners against THR have led the public, politicians, and journalists to believe that tobacco companies dominate the sale and distribution of the most widely available and visible SNP, nicotine vapes. This is untrue. PMI, BAT and JTI combined are estimated to command about 26% of the global nicotine vaping product market share by value.[150] The majority share is taken by non-tobacco industry companies, mainly based in China.

But while they may not be the dominant force in the production of nicotine vapes, it is the major tobacco companies that make HTP, and as we have seen, they are also gaining market share in smokeless products, particularly nicotine pouches. And, of course, they all still derive the majority of their profits from selling combustible cigarettes.

Statements committing these businesses to bright futures in which they end smoking and produce SNP instead are frequently issued by the major tobacco companies. They are just as frequently countered by the question 'if the company is that committed to ending smoking, why is it still selling cigarettes today?'

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only four companies were backing public statements with a reasonable level of action in terms of SNP sales and investment

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the pace and willingness of this transition largely depend on the level of competition tobacco companies face from SNP producers in specific markets

In a speech in September 2023, PMI's CEO Jacek Olczak made the case that companies like his have both the means and the leverage with their consumers to effect a large-scale transition away from combustible cigarettes. He also took aim at what he perceived as some of the major blocks to the company's move to smoke-free products:

> "Today's environment and rhetoric make it easier for governments and regulators to do nothing on smoke-free alternatives. It's perceived as safer for political careers to abstain from the debate completely rather than be seen as siding with [PMI]. But, in the end, this is just prolonging the life of cigarettes and risks shortening the lives of those who use them. For smokers today, inaction is not a neutral position. It is a choice with real-world outcomes."[151]

Oil companies continue to sell fossil fuels and automotive companies are still selling internal combustion engines, arguing that the profits from their current business will fund their transition to a more environmentally sustainable future. Are there parallels? With combustible cigarettes, tobacco companies are selling a highly profitable product that is legal in every country in the world. As Chapter Four will explore, strict regulatory frameworks or outright prohibitions mean the same cannot be said for SNP. All company CEOs are obligated to act in the best interest of the company - which most often means maximising profits for investors and shareholders. Any other approach sees that CEO fired.

But exactly how committed are the major companies in transitioning their product portfolio away from combustible products to SNP in reality? Research organisation Idwala was engaged to rank the performance of the world's 15 largest tobacco companies against a range of indicators, primarily the level of SNP sales and the degree of investment being made.

They concluded that only four companies were judged to be backing public statements with a reasonable level of action in terms of product sales and investment. Nearly all that output was geared to HIC and very little to LMIC.[152] Since 2008, PMI has invested $12.5 billion USD in its SNP ventures, with SNP making up 36.4% of its net revenue in 2023. PMI has also indicated its intention that, by 2030, SNP will make up over two thirds of total net revenues.[153]

SNP accounted for 12.3% of BAT's total revenue in 2023, and the company has made a similar declaration to PMI, stating that smokeless products will make up 50% of their total revenue by 2050.[154,155] This is not reflected throughout the industry, however. SNP made up just 3% of Imperial Brands' net revenue in 2023.[156]

Recent research by Levy, et al. (2023) suggests that we are a long way from the narrative of transformation put forward by some tobacco companies becoming a reality.[157] The authors argue that US companies will back alternatives to cigarettes when threatened by competition - in the form of pressure from non-tobacco companies. In the absence of that competition, those companies have less incentive to promote SNP.

Competition itself is largely dependent on government regulation of safer nicotine products. Thus, policies stimulating competition will positively impact innovation, in the shape of better alternatives and better substitutes for cigarettes. The Levy study also emphasises that public health advocates and researchers need to be open to the concept of both tobacco and non-tobacco companies earning profits from selling SNP.

In truth, the picture is mixed. A few companies at least appear to see significant non-combustible portfolios as a percentage of overall turnover and profit in future. But most of the global tobacco companies, whether private, state-owned or with significant state investment, are a very long way from turning all their production capacity over to non-combustibles. The pace and willingness of this transition largely depend on the level of competition they face from SNP producers in specific markets. And as we have said, in some of the major tobacco-producing countries, whole economies are reliant on the more dangerous combustible and risky oral product industry.

Additionally, products that are both available and affordable to HIC consumers are simply out of reach to those living in LMIC. Given the financial, political and cultural obstacles in the way of SNP take-up in many lower income countries, the reluctance of companies with global reach (US or China-based) to invest in developing relevant SNP markets is unsurprising.

all the available metrics for SNP growth appear to be on the up; SNP are here to stay

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there is an association between the increasing numbers of people who are using SNP and a decline in the prevalence of smoking

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the data reveal SNP to be life-saving

Twenty years of the SNP revolution: development at pace

SNP development has come a very long way in a remarkably short space of time since the first, basic e-cigarette was launched twenty years ago. Today, there is a dizzying array of product options. Nicotine vapes range from basic, cheap single use products to high tech devices, and a huge range of flavour choices. Numerous different brands of HTP are available, and Swedish snus and nicotine pouches are gaining in prominence.

But individual nicotine users' choices are often limited by regulatory restrictions, bans or simply by companies deciding not to market a product in their country. This can limit consumers to certain product categories or within product categories, for example in terms of their choice of flavours, limiting the efficacy of THR.

Of course, consumer uptake has also undergone dramatic shifts. Vaping remains dominant, with the GSTHR's 2024 estimate of the global number of vapers increasing to 114 million in 2023, up from our previous estimate of 82 million in 2021. There seems to be little doubt that the emergence of the single use vape has played a part in accelerating this growth.

But other SNP are on the rise as well. HTP have taken off in several countries around the world since 2015; as a more expensive product, their market value now exceeds that of the vape market in those countries. In some Nordic countries, snus is now the dominant nicotine consumer choice, while very recently, nicotine pouches have made substantial inroads into the North American SNP market. All the available metrics for SNP growth appear to be on the up; SNP are here to stay.

Overall market trend data suggest that while combustible tobacco sales remain significantly higher than SNP sales, the share of SNP in the total tobacco and nicotine market is increasing – and that adjusting for inflation, combustible tobacco sales are declining, while SNP sales are experiencing rapid growth.

The impact that the growth of SNP is having on smoking is also strongly suggested by prevalence data from a number of countries including Japan, New Zealand, Norway, the Philippines, Sweden, the United Kingdom and the USA. All indicate that there is an association between the increasing numbers of people who are using SNP and a decline in the prevalence of smoking. This is strongly suggestive of substitution effects of SNP for cigarettes at a population level - and that is good news. Because the data reveal SNP to be life-saving: the significant reductions in smoking achieved by switching to SNP have been shown to have real-world impacts in terms of the number of early deaths avoided.

By analysing how far SNP are substituting for combustible cigarettes worldwide, it is clear that the process of creative destruction unleashed on the tobacco industry is well underway – but it is not complete yet. How can major transnational and state-owned tobacco companies be persuaded to turn their backs on the vast profits of the combustible cigarette for good? Much will depend on national and international regulation and control regimes for SNP – the subject of the next chapter.

Chapter Four: Global regulation and control

The global regulatory and control landscape for SNP is very mixed. There are wide variations in how governments have responded to the emergence of these products, with official responses ranging from bans - in some cases using existing tobacco control laws - to a variety of regulatory frameworks, or indifference and inaction.

In this chapter, we look first at how regulation and control of SNP has been discussed at an international level, at meetings of the Framework Convention on Tobacco Control (FCTC). It is important to note that even for Parties to the FCTC – the countries that have signed and ratified the Convention – tobacco control remains a domestic issue. While, technically, the FCTC is 'legally' binding, there are no enforcement consequences for non-compliance. If anything, the FCTC could be seen as "morally" binding.[158]

Over recent years, the WHO, and numerous influential organisations and funders associated with it, have explicitly called for countries to either ban or heavily regulate SNP. In reality, a wide range of measures have been introduced by countries keen to influence their domestic SNP markets and consumers in different ways. By no means all of them follow the WHO party line.

Measures brought in to deal with the emergence and uptake of SNP fall into different groups. At the top level, there is the issue of product legality. Are the main SNP product categories legally available in the country? Then, where products are legally available, there are a wide variety of regulations in place covering, for example, procedures for product approval, product characteristics, marketing, advertising, health warnings, taxation, packaging and flavours. We will turn to these later in the chapter, after considering the international context for tobacco control.

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the WHO's current position is that SNP are no safer than smoking, do not help in cessation, and risk the renormalisation of smoking, especially for young people

An international perspective: the WHO, FCTC Secretariat and the Conference of the Parties

International tobacco control is guided by the Articles contained in the FCTC, which was enacted in 2005.[159] This was before most SNP became widely commercially available.

The Convention preamble declares a determination to "promote measures of tobacco control *based on current and relevant scientific, technical and economic considerations*" [emphasis added]. Thus, there is a recognition that developments may occur in future which could affect the implementation of the FCTC. It is evident from this text, therefore, that the architects of the Convention never intended it to be set in stone.

Notably, the phrase 'harm reduction' appears in Article 1(d), within the Introduction to the FCTC, but its meaning is not explained further. Article 1(d) offers instead a definition of 'tobacco control' according to the Convention - with harm reduction acting as the third of three strategic pillars:

> "and then 'tobacco control' means a range of supply, demand and harm reduction strategies that aim to improve the health of a population by eliminating or reducing their consumption of tobacco products and exposure to tobacco smoke."[160]

In light of the evidence demonstrating that SNP are substantially safer than smoking, and that they can assist in smoking cessation, advice on SNP could be accommodated within the Convention Articles, or in new guidelines issued on proportionate control that reflects the science. But to date, no such accommodations have been made.

Every two years, the Parties to the FCTC meet at the Conference of the Parties (COP). Those who observe the COP process believe that the FCTC Secretariat, which strongly influences the agenda, has been doing all in its power to avoid a debate on the subject of SNP and their role in tobacco harm reduction.

Decisions taken at COP meetings can be of huge importance for people who continue to smoke and people who use safer nicotine products – but they are not permitted representation at the summits. Clearly, too, there has been no attempt to harness the potential of new technology into tobacco control – quite the opposite.

Advertising, covered under Article 13 of the FCTC, is one area in which new guidelines could play a significant part in assisting people who smoke to switch to safer products, for example. While not undermining the general ban on cigarette advertising, Parties could be encouraged to allow the promotion (or even be involved in the promotion) of SNP to adults who already smoke. At the very least, companies should be permitted to place inserts in packs of combustible products, informing people of the potential to reduce the risk to their health by switching to a safer product.

But this could not happen without a significant change of policy at the WHO. The WHO's current position is that SNP are no safer than smoking, do not help in cessation, and risk the renormalisation of smoking, especially for young people.[161] This approach has underpinned almost every recommendation on the subject presented to every COP since the FCTC Secretariat raised initial concerns back in 2008.

To explore how the WHO position on SNP has developed, we present here a timeline of COP meetings since 2008, highlighting actions or discussions that took place that hold relevance for SNP as well as their role in THR, with a particular focus on COP10, the most recent meeting, which took place in February 2024.

We discuss a number of reports which were submitted by the FCTC Secretariat to different COP meetings, all of which relate to the following two Articles of the FCTC:

Article 9 - Regulation of the contents of tobacco products

"The Conference of the Parties, in consultation with competent international bodies, shall propose guidelines for testing and measuring the contents and emissions of tobacco products, and for the regulation of

these contents and emissions. Each Party shall, where approved by competent national authorities, adopt and implement effective legislative, executive and administrative or other measures for such testing and measuring, and for such regulation."[162]

Article 10 - Regulation of tobacco product disclosures

"Each Party shall, in accordance with its national law, adopt and implement effective legislative, executive, administrative or other measures requiring manufacturers and importers of tobacco products to disclose to governmental authorities information about the contents and emissions of tobacco products. Each Party shall further adopt and implement effective measures for public disclosure of information about the toxic constituents of the tobacco products and the emissions that they may produce."[163]

These two Articles, or more precisely, the *interpretation* of the two Articles, are instrumental to determining the extent of the FCTC's influence on the regulation of SNP. Currently, Articles 9 and 10 officially apply only to tobacco products. In recent years, however, some COP observers believe that the FCTC Secretariat has sought to encourage Parties to widen this scope. If this were to occur, Article 9 and 10 could also be applied to products including vapes and HTP, which would have significant implications for their regulation and control.

This concern notwithstanding, Articles 9 and 10 have for some time thrown up immensely complicated and technical issues, and been the subject of considerable discussion, debate and even occasional dissent between the Parties and the FCTC Secretariat.

Before going any further, it is also important to note that the WHO and FCTC terminology for nicotine vaping devices is 'Electronic Nicotine Delivery Systems' or ENDS, with the later addition of ENNDS for 'Electronic Non-Nicotine Delivery Systems' and 'D-ENDS' for 'Disposable Electronic Nicotine Delivery Systems'.

by 2009, Brazil, Uruguay and the Seychelles had implemented a total ban on nicotine vaping devices

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the paper on ENDS contained the WHO's first 'warning' to Parties that tobacco companies were now involved in the manufacture and supply of nicotine vapes

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the clear acknowledgement of the potential of harm reduction using nicotine-containing products is striking, given WHO's later position

COP3 (2008): Initial considerations of ENDS

ENDS were first mentioned in the context of a COP meeting in a progress report which recommended producing guidelines for Articles 9 and 10 to the Third Session of the COP.

At that point, the WHO did not appear to be taking a strong position on their regulation.[164] Nevertheless, by 2009, Brazil, Uruguay and the Seychelles had implemented a total ban on nicotine vaping devices.[165,166,167]

COP4 (2010): Parties asked to consider if ENDS should be regulated as tobacco products

At the Fourth Session, the working group tasked with producing guidelines for Articles 9 and 10 submitted a progress report, in which the COP was asked to consider whether ENDS should be considered as tobacco products, despite the fact that they do not contain tobacco.[168]

For the same session, the Convention Secretariat produced a report, 'Control and prevention of smokeless tobacco products and electronic cigarettes'. It contained the Convention Secretariat's guidance to the working group: ENDS *should* be regarded as tobacco products.[169]

This report set the direction of travel. The section on smokeless tobaccos correctly focused on India and South-East Asia, home to the most dangerous forms of these products. With regards to ENDS, however, the paper asserted that there was no evidence to back claims of relative safety, or their efficacy as products to aid smoking cessation. Still, there was no general call to ban products.

COP5 (2012): Secretariat call for Parties to survey availability of ENDS in their country

The Fifth Session of the COP was presented with an FCTC Secretariat report, 'Electronic nicotine delivery systems including electronic cigarettes'.[170] It reported the results of a survey conducted by the Secretariat among the Parties, to ascertain the extent and availability of ENDS use in their countries. Out of 176 Parties, only 33 replied. Only 16 could state that vaping products were available in their country. Only two had any prevalence data.

The WHO did not report any scientific or clinical assessments of the products themselves. Strangely, although the established recommendation was that ENDS were to be regarded as tobacco products, the WHO Study Group on Tobacco Product Regulation (TOBReg), the organisation's scientific body on tobacco control, reported that "ENDS designed for the purpose of direct nicotine delivery to the respiratory system fall into a regulatory gap in most countries, escaping regulation as drugs and avoiding the controls applicable to tobacco products".[171]

The FCTC Secretariat paper on ENDS did contain something very significant, however: the WHO's first 'warning' to Parties that tobacco companies were now involved in the manufacture and supply of nicotine vapes. In paragraph 30 of the paper, the FCTC reported the purchase of independent vape manufacturers by tobacco companies, stating "[they] are taking notice of the emerging products".[172]

By 2012, no additional countries had banned vapes. Among the few that had replied to the FCTC survey, there was a mix of regulation and no regulation. Overall, the message to Parties from the WHO was: 'we don't know enough about these products'.

COP6 (2014): WHO acknowledges conflicting views on ENDS

The paper prepared by the FCTC Secretariat for the Sixth Session of the COP in 2014 was titled 'Electronic Nicotine Delivery Systems'.[173] For the first time, the WHO recognised that the emergence of vaping was provoking a range of reactions in the public health community:

> "ENDS are the subject of a public health dispute among bona fide tobacco-control advocates that has become more divisive as their use has increased. Whereas some experts welcome ENDS as a pathway to reduction of tobacco smoking, others characterize them as products that could undermine efforts to denormalize tobacco use."

Further into the paper, there are hints at the potential benefits of nicotine vapes. Under a section on 'Health risks to users and non-users', the paper concluded that "therefore it is very likely that average ENDS use produces lower exposures to toxicants than combustible products". On the issue of helping people who smoke to quit, the paper refers to the 2014 US Surgeon General Report. It had concluded that:

> "ENDS are much more likely to provide public health benefits only in an environment where the appeal, accessibility, promotion and use of cigarettes and other combusted tobacco products are rapidly reduced."[174]

What would be the obvious way of facilitating this process? To ensure every effort was made to persuade people who smoke to switch. Instead, much of the paper is devoted to urging Parties to prohibit the marketing and promotion of ENDS, alongside other alleged risks of allowing the ENDS market to flourish, including referencing the 'gateway theory' and undermining tobacco control efforts.

Under the heading 'General Considerations', the paper stated:

> "Public health authorities need to prioritize research and invest adequately to elucidate evidentiary uncertainties as soon as possible. However, the greater responsibility to prove claims about ENDS scientifically should remain with the industry."[175]

This was disingenuous in two respects. Few countries outside the US would have the capacity to conduct their own research. They would inevitably rely on scientific advice from the WHO. Judging by the references in this paper, this was already heavily weighted against the potential public health benefits of nicotine vaping. Secondly, it is hard to see how industry could make the scientific case as it was (and remains) very difficult for industry science to be published in academic journals.

Finally, this paper noted the results of the 2014 WHO survey on ENDS regulation, where it was found that 13 countries had banned the sale of vapes containing nicotine. Among the conclusions was this assessment:

> "However, the majority of these countries report that ENDS are available to the public, probably through illicit trade and cross-border Internet sales."[176]

COP7 (2016): Tobacco industry involvement seals the fate of ENDS

COP7 saw the publication of a WHO report titled 'Electronic Nicotine Delivery Systems and Electronic Non-Nicotine Delivery Systems (ENDS/ENNDS)'.[177]

The report directly addressed the 'role of ENDS/ENNDS in tobacco control' under section five. The clear acknowledgement of the potential of harm reduction using nicotine-containing products that pose fewer health risks than combustible tobacco is striking, given the WHO's later position:

> "If the great majority of tobacco smokers who are unable or unwilling to quit would switch without delay to using an alternative source of nicotine with lower health risks, and eventually stop using it, this would represent a significant contemporary public health achievement."[178]

This statement was followed by caveats around uptake of any such product among youth and non-smokers. There was also recognition that debate continued over whether nicotine vapes could perform the function outlined above:

> "Whether ENDS/ENNDS can do this job is still a subject of debate between those who want their use to be swiftly encouraged and endorsed on the basis of available evidence, and others who urge caution given the existing scientific uncertainties as well as the performance variability of products and the diversity of user behaviour."[179]

Unfortunately for those advocating in favour of harm reduction, while this paper appears to have been influential in the development of the WHO's stance on vaping, it was not as a consequence of the points above. What seems to have had the most impact came instead, it would appear, from the section on 'Commercial interests', which contains this observation:

> "Initially, the growth of the ENDS/ENNDS market was driven by companies that were independent from traditional transnational tobacco companies (TTCs). However, TTCs are rapidly increasing their share of what is so far a generally unregulated market. [...] The engagement of TTCs in the marketing of ENDS/ENNDS is a major threat to tobacco control."[180]

The point made in this brief paragraph can now be understood as a key driver for the attitude adopted by WHO and its allies, first toward nicotine vapes, and later, other SNP. To many observers, it seems that from this point on, organisations which opposed THR/SNP, and the funders of those organisations, were focused less on the potential benefits of SNP to reduce death and disease from smoking, and more on re-energising the war against the tobacco industry.

One more important development occurred at COP7, as far as tobacco harm reduction is concerned. It exemplifies the hardening stance on 'ENDS' – along with evidence of discontent emerging among some Parties in response.

The committee stage is where the main business is conducted at COP meetings. There are two committees, formed from Parties to the FCTC; Committee A deals with policy matters and Committee B with administrative ones. In 2016, after discussion, Committee A, submitted its draft report for Parties to consider at the plenary stage. The draft report included this provision:

> "INVITES Parties to consider applying regulatory measures such as those referred to in document FCTC/COP/7/11 to **prohibit or restrict the manufacture, importation, distribution, presentation, sale and use of ENDS/ENNDS,** as appropriate to national laws and public health objectives."[181] [emphasis added]

During the committee discussions, some Parties present wanted the statement to reflect that any regulation of 'ENDS/ENNDS' should be 'science-based'. However, after objections from others, those words did not appear.

"the engagement of traditional transnational tobacco companies in the marketing of ENDS/ENNDS is a major threat to tobacco control" – FCTC Secretariat

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by 2018, 30 countries had banned or severely restricted consumer access to vapes

COP8 (2018): HTP enter the fray, and the spread of ENDS continues

By the time of the Eighth Session in 2018, HTP were now on the market in a number of countries. Produced only by the major tobacco companies and containing tobacco, Parties were informed that they were therefore unequivocally subject to the provisions of the FCTC.

The FCTC Secretariat produced a 'progress report' on the regulatory and market landscape since the first COP report in 2008.[182] Reading this, there certainly had been progress in the spread of nicotine vaping devices (or in the WHO's terminology, ENDS/ENNDS) across the world, although primarily in HIC. However, 30 countries had already banned or severely restricted consumer access to vapes.

COP9 (2021): The pandemic delays further developments

COP9, initially scheduled for 2020, was delayed for a year because of COVID. Ultimately, the meeting was conducted online in 2021. There were no substantive discussions on any topic - although two important papers relevant to THR were held over until COP10.

COP10 (2024): How long can the WHO ignore THR?

In a February 2024 Lancet comment, published immediately prior to COP10, two distinguished former WHO Directors, Professor Robert Beaglehole, a global public health practitioner, and Professor Ruth Bonita, an epidemiologist, explicitly called for a change of direction from their former employers. Titled 'Harnessing tobacco harm reduction', Beaglehole and Bonita said:

> "Countries that are reaping the benefit of tobacco harm reduction, such as New Zealand, Sweden, Norway, England, and Japan, should encourage participating countries at COP10 to support proposals that will quickly reduce smoking rates."[183]

This was not the first time Beaglehole and Bonita had spoken up. In a presentation in 2021, Robert Beaglehole argued that "progressive countries [should] be working together to reform WHO, to reform COP", directly addressing his WHO colleagues as "the harm reduction deniers".[184] And in 2022, Beaglehole and Bonita, again in *The Lancet*, stated baldly that "the FCTC is no longer fit for purpose, especially for low-income countries".[185]

But in the lead up to COP10, held in Panama City, there was little to indicate that any change of heart was on the FCTC agenda. In a dedicated Briefing Paper, 'The FCTC COP10 Agenda and supporting documents: implications for the future of tobacco harm reduction', the GSTHR noted:

> "Neither the Agenda, nor the accompanying published COP10 documents, nor various other reports intended to influence the Parties at the COP consider that SNP offer any opportunities for public health. There is no guidance for countries wishing to incorporate THR and SNP into their tobacco control policies, including how to regulate them in proportion to the level of risk they pose. SNP are presented as a threat to tobacco control, rather than as a potential tool to both support a switch from smoking and reduce high-risk tobacco use."[186]

While the FCTC Secretariat's position on SNP appeared unchanged in the agenda and supporting documents, however, some of the Parties' opening statements in Panama suggested that not all were planning to fall in line.

Most of what takes place at COP happens behind closed doors, and the meetings receive little or no coverage in mainstream media. A website called Copwatch, established by consumers of SNP who advocate for THR, aims to rectify this lack of scrutiny. The authors provide updates on what emerges into the public sphere about the proceedings of COP meetings. Copwatch highlighted some of the countries whose positions looked to be straying from the official 'party line' on THR:

> "The [Philippines] was one of many which challenged the WHO to consider harm reduction as a valid option to reduce the harms of combustible use. […] They were not the only delegation to do so. Disappointed pro-WHO groups objected that 'a number of countries, led by Guatemala and including the Philippines, China, Russia, Antigua and Barbuda, echoed industry talking points'. Translation: They didn't fall into line with the policies favoured by the WHO."[187]

Copwatch later added New Zealand, Armenia, El Salvador and St Kitts and Nevis to the list of countries that made positive statements about SNP and THR.[188] In one of the most interesting, a former Prime Minister of the Caribbean state of St Kitts and Nevis, Denzil Douglas, noted:

> "Although the convention that guides us itself describes tobacco control as a range of supply, demand and harm reduction strategies […] the public health community must define these terms on a more detailed manner. It is important to note […] that the proven concept of harm reduction plays a significant role in other areas of public health, such as sexually transmitted infections, HIV AIDS, drug and alcohol addiction, and in fact, air pollution. […]

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while Working Groups can be open to all Parties, Expert Groups are firmly within the control of the FCTC Bureau

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this stalemate is indicative that a growing number of Parties are resisting the imposition of decisions made for them by the FCTC leadership

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the FCTC Secretariat's unilateral view was that all HTP emissions – which do not burn tobacco, but heat it – count as 'smoke'

> "The tobacco control community should not reject the idea of harm reduction per se but we should learn from the best practices of proven public health-oriented measures while preventing the tobacco industry from hijacking that important term." [189]

He then said, "with the above in mind, we would like to present a proposal…", but was immediately interrupted by the President of the COP, Ms. Dhlamini, who told Douglas to "confine [himself] to the agenda". Undeterred, he tried again: "Right. And we are proposing a working group which I intend to spend more time…". Again, Ms. Dhlamini interjected swiftly, saying "it is not the time for a proposal".[190]

The St Kitts and Nevis proposal was specifically for a 'working group'. This is important – and perhaps explains the President's desire to close down the suggestion so quickly. 'Working Groups' or 'Expert Groups' can be established under FCTC procedure to scrutinise specific issues. But while Working Groups can be open to all Parties, Expert Groups are firmly within the control of the FCTC Bureau and are heavily linked to WHO bodies as well as selected NGOs, most funded by Bloomberg, all of which tend to be opposed to THR.[191]

The 'Working Group' versus 'Expert Group' question was the source of one of the most protracted debates at COP10, in relation to Articles 9 and 10. As noted earlier, these cover the 'regulation of tobacco products and their disclosure' and are crucial to how the FCTC deals with SNP. The Article 9 and 10 Working Group was suspended in 2018. Following two consultations by the FCTC Secretariat in 2020 and 2021, a majority of Parties indicated they wished the Working Group to continue.[192] Yet in the official documents supplied ahead of COP10, Parties were instead invited to replace the Article 9 and 10 Working Group with an Expert Group.

In Panama, the debate over this issue went on for five days. It took up so much time that multiple other agenda items had to be moved to accommodate it. The St Kitts and Nevis proposal came up again – as did the question of the inclusion of nicotine vapes in this workstream. The official report of COP10 notes:

> "Some Parties urged the Committee to also consider a draft decision that would call for the creation of an intersessional working group on harm reduction.

> Other Parties considered that harm reduction went beyond the scope of the Article 9 and 10 agenda item currently under consideration, which dealt exclusively with the contents and emissions of tobacco products; a technical report on harm reduction by WHO would be more appropriate. A suggestion that the Working Group's mandate should be extended to cover nicotine and non-nicotine delivery systems (ENDS/ENNDS) was opposed on the same grounds."[193]

After five days of debating this and other related points, no consensus could be reached. This stalemate is indicative that a growing number of Parties are resisting the imposition of decisions made for them by the FCTC leadership and its networks – particularly when it comes to matters relevant to tobacco harm reduction.

The two papers relating to safer nicotine products that had been held over from 2021 formed part of the relevant substantive discussions at COP10. One of the papers was titled 'Challenges posed by and the classification of novel and emerging tobacco products'.[194] The paper sought to consider the definition of 'smoke' in relation to the emissions of 'novel and emerging tobacco products'. This is important, as protecting "present and future generations from the devastating […] consequences of tobacco consumption and exposure to tobacco smoke" is the stated objective of the FCTC.[195]

The FCTC Secretariat had urged Parties to conduct their own research into HTP. In reality, the Secretariat would have been aware this research was unlikely to happen, largely due to the cost. The FCTC Secretariat's unilateral view was that all emissions from HTP - which do not burn tobacco but heat it – count as 'smoke'. By that token, HTP should logically be controlled under the FCTC. In a report, the Secretariat included information on the approach to HTP from 17 high-income countries. Ten had already applied existing smoke-free legislation to the products.[196] Neither Sweden nor Germany featured on the list. Perhaps that had something to do with the fact that legal cases in both countries, brought by PMI, had found that the 'heat sticks' used in HTP should in fact be classed as 'smokeless tobacco products'.[197,198]

While the primary focus of this paper was HTP, it is worth noting that some of the wording leaves open the possibility for the emissions of other products to be similarly reclassified:

> "Novel and emerging tobacco products, particularly HTPs, emit pyrolysis products such as volatile aldehydes; therefore, these aerosols are clearly within the scientific definition of 'smoke'."[199]

The second paper held over from 2021 was titled 'Comprehensive report on research and evidence on novel and emerging tobacco products, in particular heated tobacco products, in response to paragraphs 2(a)-(d) of decision FCTC/COP8(22)'. Despite claiming to be comprehensive, the document was only ten pages long. It focused almost exclusively on HTP, repeating the contents of previous papers about HTP emissions, health risks, and market size, highlighting areas of 'uncertainty' and stating that HTP were not harmless.[200] Of course, not even the staunchest THR advocate would make such a claim.

Beyond COP10

If the organisers were keen to keep harm reduction off the official agenda, outside of the conference centre in Panama City, things were different. THR advocates and consumers of SNP – denied entry to the official proceedings – held parallel sessions. It appears that their presence did not go unnoticed by the WHO. According to multiple reports, the Panamanian authorities raided hotels where THR advocates were staying, apparently in search of 't-shirts and pamphlets advertising harmful products'.[201]

The reality is that any discussion of harm reduction under the FCTC would inevitably force a recognition that products like vapes, HTP, snus and nicotine pouches, when well-regulated, contribute to tobacco control through harm reduction. The evidence supports the assertion that they would "improve the health of a population by eliminating or reducing their consumption of risky tobacco products and exposure

the Panamanian authorities raided hotels where THR advocates were staying

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safer alternatives to combustible cigarettes should not be regarded as, and subject to the same controls as, the risky tobacco products they could replace

to tobacco smoke" (Article 1D, FCTC).[202] Logically, safer alternatives to combustible cigarettes should not be regarded as, and subject to the same controls as, the risky tobacco products they could replace.

But a Party consensus in support of this would signal a complete rejection of current WHO policy on 'novel and emerging tobacco and nicotine products', the term the WHO uses to refer to SNP. This is very unlikely. After yet another COP meeting, the issue of THR is still not officially on the table. So, everything has gone into stasis once again, until COP11, scheduled to take place in Geneva in November 2025.

As noted at the outset of this chapter, tobacco control is a matter for individual countries, with the exception of work on cross-border smuggling of illicit tobacco. Yet while the WHO and FCTC Secretariat are always careful to emphasise the sovereign rights of Parties to formulate their own policies, there is still clear pressure from the top for policy harmonisation when it comes to the regulation and control of SNP. In official COP documents and other communiqués, the FCTC Secretariat (and the WHO more broadly) have encouraged countries to adopt tight controls on these products. But how have governments chosen to respond to SNP? What does the global legal landscape look like in 2024?

a notable increase in the number of countries implementing bans on vaping occurred between 2009 and the release of our first GSTHR report in 2018

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the regulatory environment for SNP is notably more complex and nuanced than that of combustible tobacco products

The current legal landscape for SNP

The global regulatory environment for SNP is both diverse and constantly evolving. Over the past decade, the trend has generally been toward stricter regulations or outright bans on SNP. Nicotine vaping products have been at the centre of much of the debate and regulatory change. This heightened focus is likely due to vapes being more widely accepted internationally (at least up until 2020, as discussed in Chapter 3), having been on the market longer than HTP and nicotine pouches, and drawing significant concern from regulators, particularly regarding youth vaping (explored in Chapter 5).

A notable increase in the number of countries implementing bans on vaping occurred between 2009 and the release of our first GSTHR report in 2018.[203]

For the past six years, the GSTHR project has been closely monitoring these developments, having established the world's largest THR database. This free-to-access online resource supplies data on the use, availability and regulation of SNP, as well as smoking prevalence and mortality, across over 200 countries and regions. With frequent, often daily updates, the GSTHR website closely tracks changes in legislation.[204]

Since the database was created in 2018, there has been movement in both directions in terms of the regulation of vapes - some countries have imposed new bans, while others have relaxed their laws, making them legally available. For instance, by 2024, countries such as Chile, India, Kazakhstan, Kuwait, Laos, Norway, Taiwan, and Vietnam had instituted bans on vapes. Conversely, nations such as Bahrain, Egypt, Lebanon, New Zealand, Saudi Arabia, and the UAE lifted theirs, making nicotine vaping products legally accessible to their populations by 2024.

The regulatory environment for SNP is notably more complex and nuanced than that of combustible tobacco products. It is overly simplistic to claim that a country has 'banned' vaping, as some media and online sources do. In reality, a ban can range from an outright prohibition on the sale, production or import of vaping products, to a *de facto* ban where products are only available with a prescription, or where nicotine-containing liquids are banned while nicotine-free liquids are permitted.

Further complexity arises in countries with federal systems like the USA and Canada, where laws can vary significantly from state to state.

Legal availability

To provide a global perspective on SNP regulation and to simplify the classification of product legality, we grouped the legal status of SNP in each country into three categories:

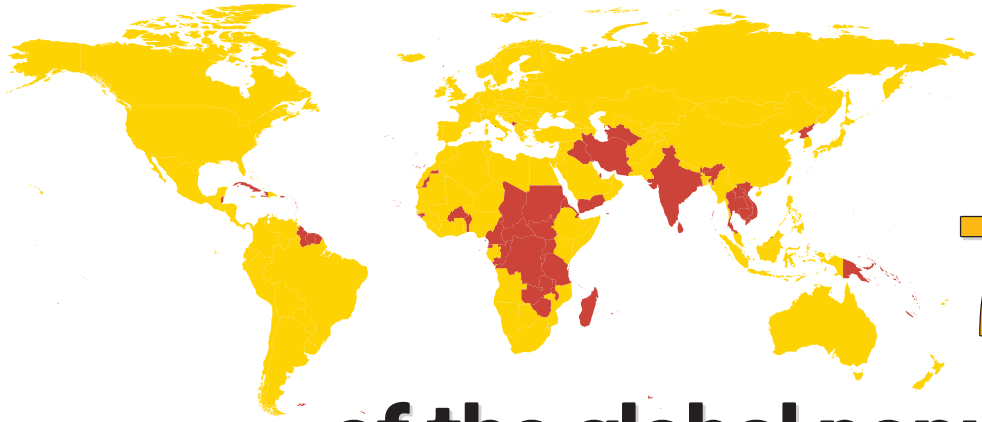
1. Legally available (or legally available consumer products, LACP):
   a. Countries where the sale and use of SNP as a consumer product are permitted under specific laws that regulate their sale and use, without heavy restrictions (in this case, we consider heavy restrictions to be e.g. banning nicotine in the product, only allowing purchase with prescription or from medically licensed professionals).
   b. Countries where there is no specific legislation regulating SNP, but where they are regulated under general tobacco laws. For example, if combustible or smokeless tobacco products are not banned in a country, SNP would also be considered legally available under these general laws.
2. Banned: Countries where the sale and/or use of SNP are explicitly prohibited by law or so heavily restricted (e.g., prescription-only, medically licensed SNP only, bans on nicotine-containing SNP) that it effectively prohibits their sale as consumer goods.
3. No information:
   a. Countries where there is no information available on their regulatory status, meaning we lack data on whether specific or general tobacco laws permit or ban their sale/use.
   b. Countries where SNP fall outside the legal framework entirely, meaning they are neither specifically banned nor regulated.

As of 2024, at least one category of SNP (nicotine vapes, HTP, snus or nicotine pouches) is legally available in 129 countries. This covers four billion people, which represents 71% of the global adult population.

Not all countries allow all categories of SNP, however. Moreover, regulators typically favour only one type of SNP, while banning others. In 45 countries, only one type of SNP is legally available, covering 502 million people (9%). A further 31 countries allow for two SNP, covering nearly 2 billion people (34%), 26 countries permit three SNP, covering 381 million people (7%). Four types of SNP are legally available in only 27 countries, covering 1.2 billion people (21%).

In 72 countries, no SNP are legally available, affecting 1.7 billion people, or 29% of the global population. 'Not legally available' does not *necessarily* mean that SNP are banned – while this category includes countries that do have bans on all products (of which there are five: India, Qatar, Thailand, Turkmenistan and Vietnam), it also includes those where there is no specific legislation on any product, or where information is unavailable (53 countries) and where these categories are mixed.

At least one kind of SNP is legally available in 129 countries

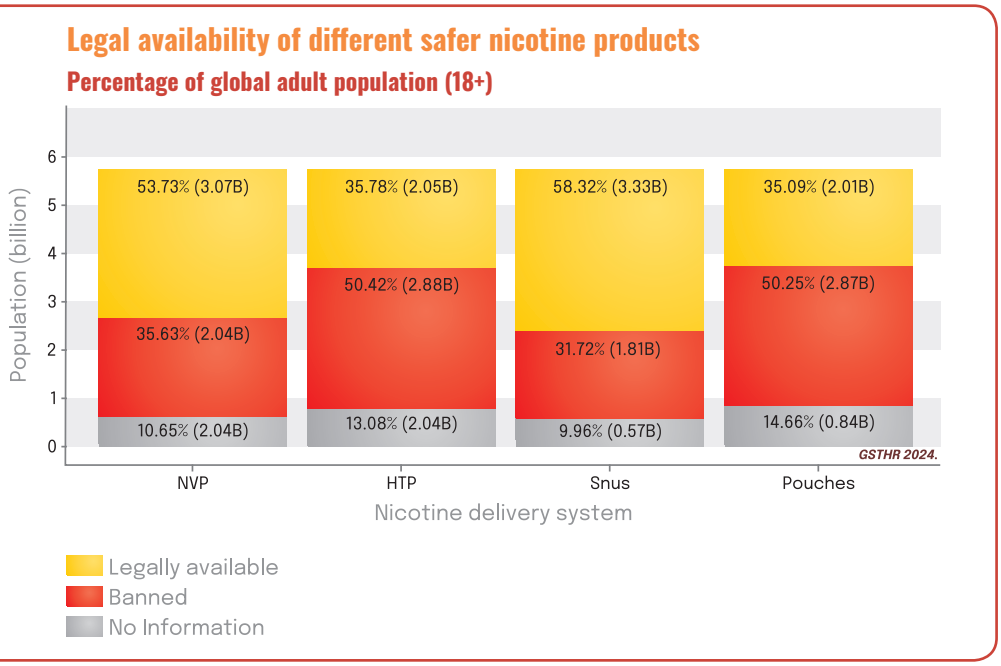


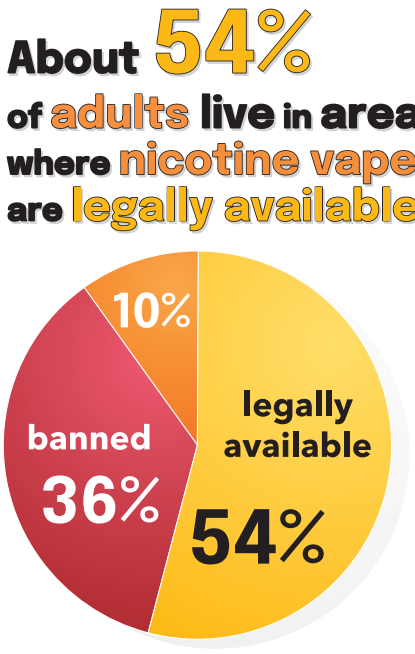
71% of the global population

Table 2 **Legal availability of SNP (nicotine vaping devices, heated tobacco products, snus and nicotine pouches)**

Number of legally available safer nicotine products	Number of countries	Population covered (millions)	Percentage of global population covered
At least one SNP is legally available	129	4,066	71.14%
One SNP is legally available	45	502	8.79%
Two SNP are legally available	31	1,961	34.31%
Three SNP are legally available	26	381	6.66%
Four SNP are legally available	27	1,222	21.38%
No safer nicotine products are legally available	72	1,650	28.86%

Analysing the global landscape for SNP by product type reveals significant regulatory diversity. The graph below illustrates the legal status of SNP across the global adult population.





About 54% of the global adult population, equivalent to 3.1 billion people, live in countries where nicotine vapes are legally available. In contrast, 36% (2 billion people) reside in countries where vaping is banned, while 10% (610 million people) are in countries with no specific legislation or available information.

HTP have a slightly different distribution. They are legally available to 36% of the global adult population (2 billion people), while half of the population (50%, or 2.9 billion people) lives in areas where these products are banned. The remaining 14% (790 million people) are in regions with no clear regulatory stance.

Snus is legally available to 58% of the global adult population (3.3 billion people), making it more widely accessible than both vaping products and heated tobacco. However, 32% of people (1.8 billion) live in countries where snus is banned, and 10% (570 million) are in areas with unclear regulations.

Finally, nicotine pouches are legally available to 35% of the adult population (2 billion people), while half of the population (50%, or 2.9 billion people) resides in areas where they are banned. The remaining 15% (840 million people) are in regions with no specific regulation or available information.

It is worth noting, in any discussion over the prohibition of safer nicotine products, the fact that no countries currently ban combustible tobacco. This means the deadliest type of nicotine delivery system – the combustible cigarette – is currently legally available to 100% of the world's population.

The maps below illustrate the legal availability of the various safer nicotine product categories worldwide. Although no clear geographical pattern emerges from these regulations, there is a notable trend: it is uncommon for a product to have either legal availability or banned status in just one or two countries within a region. Generally, if a product is a legally available consumer product, or conversely, is banned in one country, the same status is likely to apply across the majority of neighbouring countries within that region. This suggests that regional influences often shape national policies, leading to similar regulatory environments across entire regions.

nicotine vapes are legally available to 54% of the global adult population, HTP to 36%, snus to 58% and nicotine pouches to 35% - but combustible cigarettes to 100%

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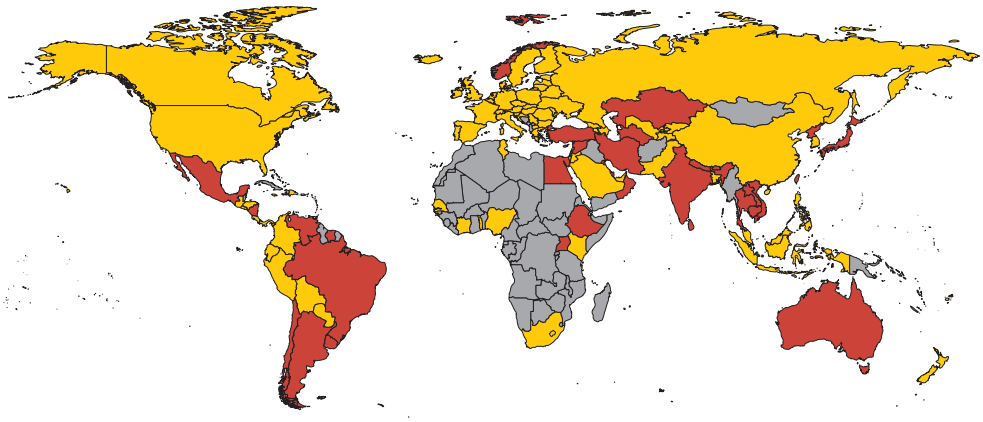
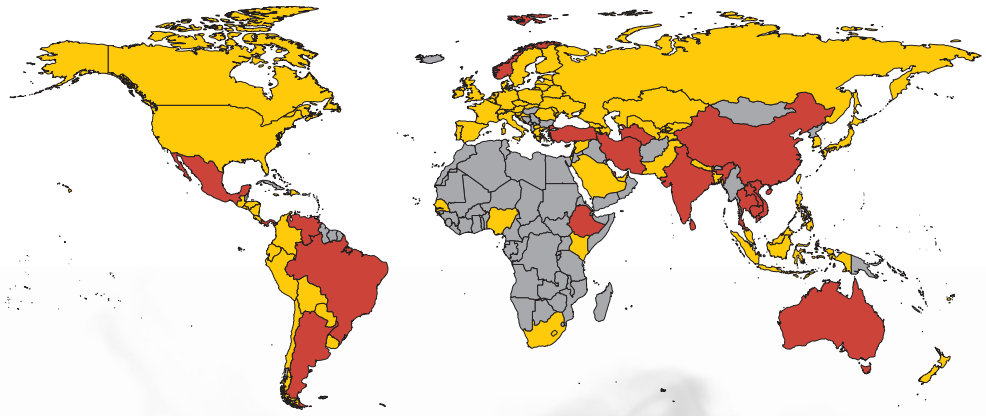
the deadliest nicotine delivery system of all – the combustible cigarette – is legal everywhere on earth

Legal availability of nicotine vaping products



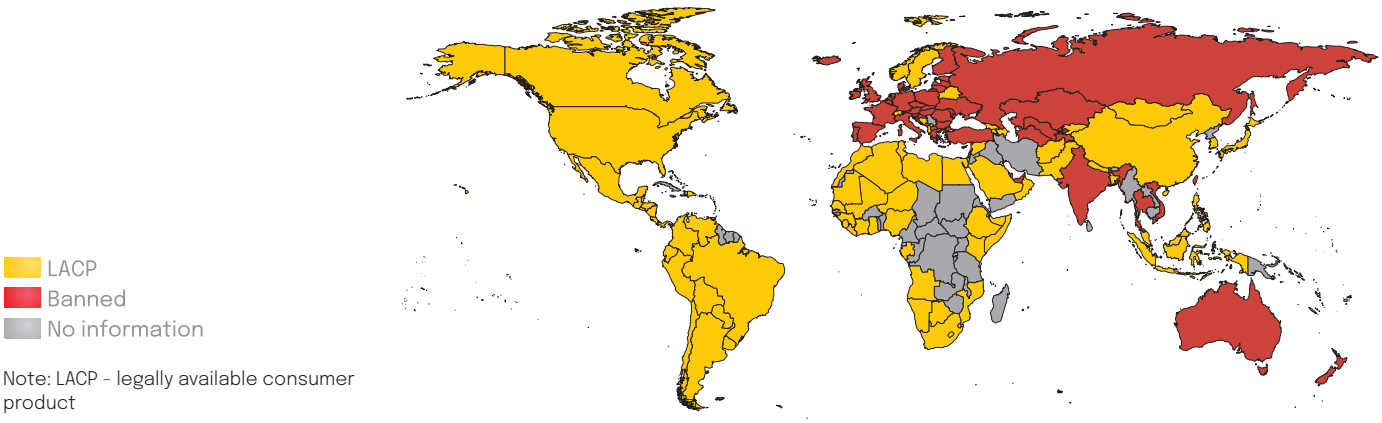
Note: LACP - legally available consumer product

Legal availability of heated tobacco products



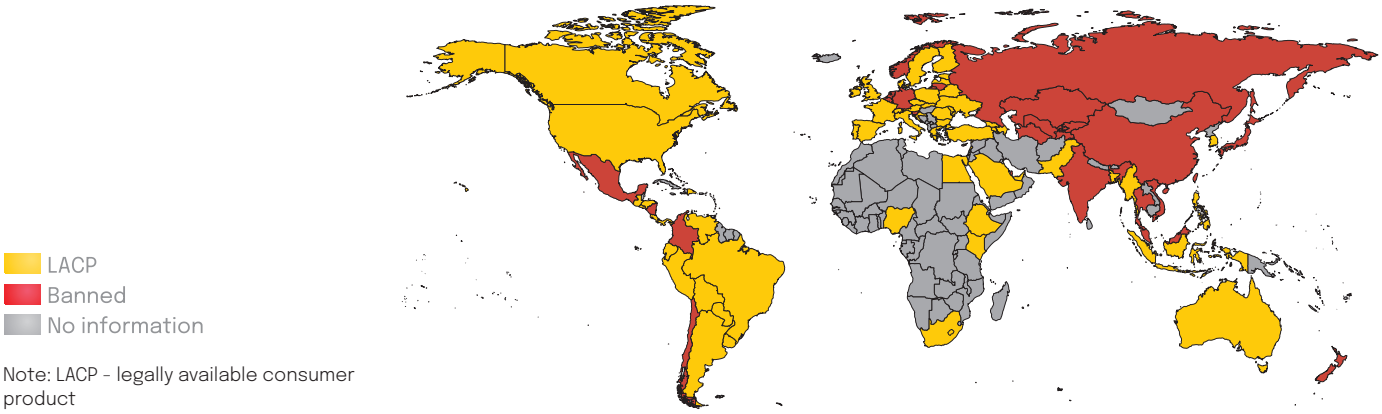
Note: LACP - legally available consumer product

Legal availability of snus



Note: LACP - legally available consumer product

Legal availability of nicotine pouches



Note: LACP - legally available consumer product

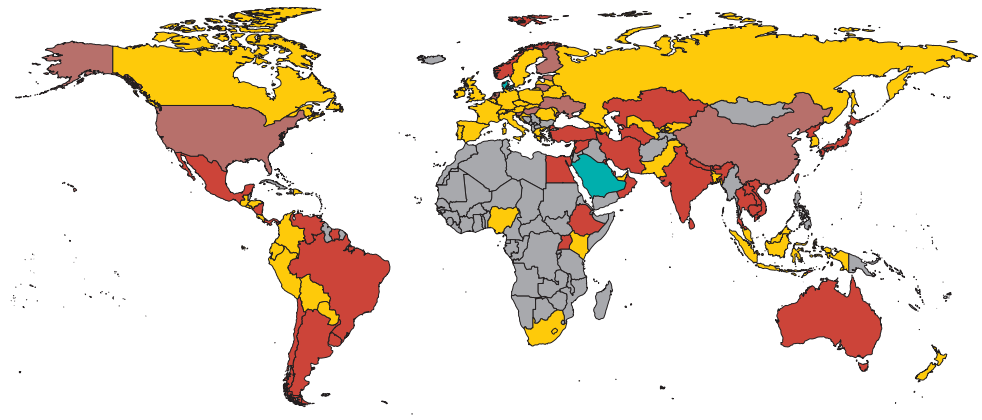
Regulation of flavours

Even if a product is legally available, the availability of flavours is another important factor incentivising the substitution of smoking by SNP or helping avoid a relapse to smoking.[205] Our focus is on the regulation of flavours for nicotine vaping products and HTP, primarily due to the availability of data.

The regulation of flavours varies significantly across different countries. There are no restrictions on flavours for nicotine vapes in 41 countries, which allow a wide range of choices. However, 10 countries have implemented restrictions, permitting only tobacco, mint, and menthol flavours, or in some cases, only tobacco or no flavours at all. When it comes to HTP, 30 countries allow all flavours, whereas 25 countries have put restrictions in place.

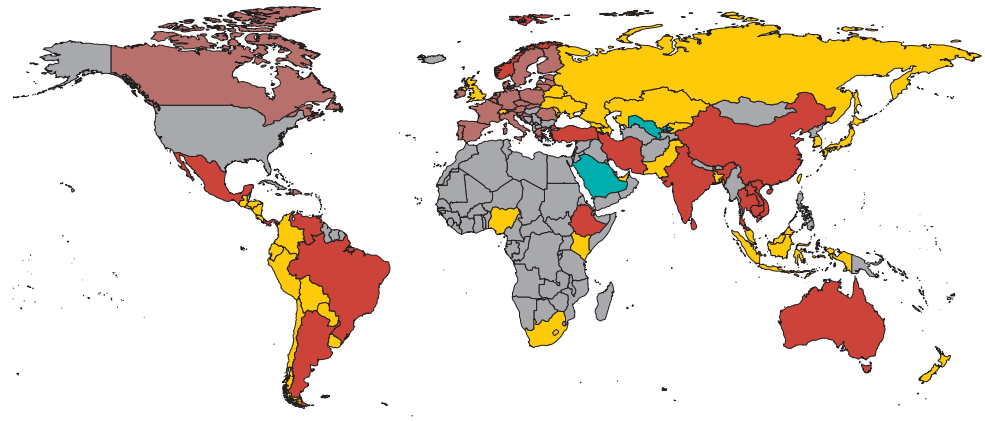
The maps below illustrate the diverse regulatory approaches to flavours used in safer nicotine products around the world.

Limitations on the availability of flavours
in legal sales of nicotine vaping products



- Most flavours are allowed
- Only tobacco, mint, and menthol flavours are allowed
- Only tobacco flavours or no flavours are allowed
- This product category is banned
- No information

Limitations on the availability of flavours
in legal sales of heated tobacco products



- Most flavours are allowed
- Only tobacco, mint, and menthol flavours are allowed
- Only tobacco flavours or no flavours are allowed
- This product category is banned
- No information

Other regulatory aspects

Beyond product and flavour availability, several other regulatory domains significantly impact consumers, including retail restrictions, advertising and promotion, health warnings and labelling, product content, and taxation.

These policies, like those governing product and flavour availability, vary considerably across different countries. To illustrate the range of regulatory approaches, this analysis focuses on the top countries by SNP market size, excluding the United States and Canada due to the significant variation in regulations across states within these countries (see table below).

Table 3, 4 SNP regulatory provisions in top SNP markets

	Legal availability				Flavours				Sale restrictions				Sales Age
Country	NVP	HTP	SNUS	NP	NVP	HTP	SNUS	NP	NVP	HTP	SNUS	NP	All SNP
Japan	B	LACP	LACP	B	PCB	MF	MF	PCB	PCB	SR	SR	PCB	20
Italy	LACP	LACP	B	LACP	MF	TF or NF	PCB	MF	SR	SR	PCB	SR	18
UK	LACP	LACP	B	LACP	MF	MF	PCB	MF	GR	GR	PCB	GR	18
Germany	LACP	LACP	B	B	MF	TF or NF	PCB	PCB	GR	GR	PCB	PCB	18
Indonesia	LACP	LACP	LACP	LACP	MF	MF	MF	MF	GR	GR	GR	GR	18
China	LACP	B	LACP	B	TF or NF	PCB	MF	PCB	GR	PCB	GR	PCB	18
Russia	LACP	LACP	B	B	PCB	PCB	PCB	PCB	GR	GR	PCB	PCB	18
Poland	LACP	LACP	B	LACP	MF	TF or NF	PCB	MF	GR	GR	PCB	GR	18
South Korea	LACP	LACP	LACP	LACP	MF	MF	MF	MF	SR	SR	SR	SR	19
Sweden	LACP	LACP	LACP	LACP	MF	TF or NF	MF	MF	GR	GR	GR	GR	18
South Africa	LACP	LACP	LACP	LACP	MF	MF	MF	MF	GR	GR	GR	GR	18
Switzerland	LACP	LACP	LACP	LACP	MF	MF	MF	MF	GR	GR	GR	GR	18
Ukraine	LACP	LACP	B	LACP	TF or NF	MF	PCB	MF	GR	GR	PCB	GR	18
France	LACP	LACP	B	LACP	MF	TF or NF	PCB	MF	GR	SR	PCB	GR	18
Czech Republic	LACP	LACP	B	LACP	MF	TF or NF	PCB	MF	GR	GR	PCB	GR	18
Hungary	LACP	LACP	B	LACP	TF or NF	TF or NF	PCB	No info	SR	SR	PCB	SR	18
Greece	LACP	LACP	B	LACP	MF	TF or NF	PCB	MF	GR	GR	PCB	GR	18
Uruguay	B	LACP	LACP	LACP	PCB	MF	MF	MF	PCB	GR	GR	GR	18
Kazakhstan	B	LACP	B	B	PCB	MF	PCB	PCB	PCB	GR	PCB	PCB	21
Norway	B	B	LACP	B	PCB	PCB	MF	PCB	PCB	PCB	SR	PCB	18
Romania	LACP	LACP	B	LACP	MF	TF or NF	PCB	MF	GR	GR	PCB	GR	18
Portugal	LACP	LACP	B	LACP	MF	TF or NF	PCB	MF	GR	GR	PCB	GR	18
Lithuania	LACP	LACP	B	B	TF or NF	TF or NF	PCB	PCB	GR	GR	PCB	PCB	18
Spain	LACP	LACP	B	LACP	MF	TF or NF	PCB	MF	GR	SR	PCB	GR	18
Austria	LACP	LACP	B	LACP	MF	TF or NF	PCB	MF	GR	SR	PCB	GR	18
Denmark	LACP	LACP	B	LACP	TMMF	TF or NF	PCB	MF	GR	GR	PCB	GR	18

Source: GSTHR4

	Sale via the internet				Point of sale product display				Health warnings on product packaging				Excise tax compared to excise duty on cigarettes			
Country	NVP	HTP	SNUS	NP	NVP	HTP	SNUS	NP	NVP	HTP	SNUS	NP	NVP	HTP	SNUS	NP
Japan	PCB	A	A	PCB	PCB	A	A	PCB	PCB	THW	THW	PCB	PCB	<10%	<50%	PCB
Italy	A	A	PCB	A	A	A	PCB	A	THW	THW	PCB	THW	<10%	<50%	PCB	<10%
UK	A	A	PCB	A	A	A	PCB	A	THW	THW	PCB	THW	No excise	<50%	PCB	No excise
Germany	A	A	PCB	PCB	A	A	PCB	PCB	THW	THW	PCB	PCB	<10%	>=50%	PCB	PCB
Indonesia	A	A	A	A	A	A	A	A	THW	THW	GHW/PP	THW	<50%	>=50%	<50%	>=50%
China	P	PCB	P	PCB	A	PCB	A	PCB	THW	PCB	THW	PCB	>=50%	>=50%	No excise	PCB
Russia	P	P	PCB	PCB	P	P	PCB	PCB	THW	THW	PCB	PCB	<50%	>=50%	PCB	PCB
Poland	A	A	PCB	A	A	A	PCB	A	THW	THW	PCB	THW	<10%	<50%	PCB	No excise
South Korea	P	P	P	P	A	A	A	A	GHW/PP	GHW/PP	GHW/PP	GHW/PP	>=50%	>=50%	>=50%	>=50%
Sweden	A	A	A	A	A	A	A	A	THW	THW	THW	THW	<50%	<50%	<50%	<10%
South Africa	A	A	P	A	A	A	A	A	THW	GHW/PP	GHW/PP	THW	<50%	>=50%	>=50%	No excise
Switzerland	A	A	P	A	A	A	A	A	THW	THW	THW	THW	No excise	<50%	<50%	<50%
Ukraine	A	A	PCB	A	A	A	PCB	A	THW	THW	PCB	THW	<50%	<50%	PCB	No excise
France	A	A	PCB	A	A	A	PCB	A	THW	THW	PCB	THW	No excise	>=50%	PCB	No excise
Czech Republic	A	A	PCB	A	A	A	PCB	A	THW	THW	PCB	THW	No excise	<50%	PCB	No excise
Hungary	A	A	PCB	A	A	A	PCB	A	No info	THW	PCB	THW	<10%	>=50%	PCB	No excise
Greece	A	A	PCB	A	A	A	PCB	A	THW	THW	PCB	THW	<10%	<50%	PCB	No excise
Uruguay	PCB	P	P	No info	PCB	P	P	A	PCB	GHW/PP	GHW/PP	THW	PCB	No excise	No excise	No excise
Kazakhstan	PCB	P	PCB	PCB	PCB	P	PCB	PCB	PCB	GHW/PP	PCB	PCB	PCB	>=50%	PCB	PCB
Norway	PCB	PCB	A	PCB	PCB	PCB	P	PCB	PCB	PCB	THW	PCB	PCB	PCB	<50%	PCB
Romania	A	A	PCB	A	A	A	PCB	A	THW	THW	PCB	THW	<10%	<50%	PCB	No excise
Portugal	P	P	PCB	A	A	P	PCB	A	THW	THW	PCB	THW	<50%	<50%	PCB	No excise
Lithuania	P	P	PCB	PCB	P	P	PCB	PCB	THW	THW	PCB	PCB	<10%	<50%	PCB	PCB
Spain	A	P	PCB	A	A	A	PCB	A	THW	THW	PCB	THW	No excise	<50%	PCB	No excise
Austria	A	A	PCB	A	A	A	PCB	A	THW	THW	PCB	THW	No excise	<50%	PCB	No excise
Denmark	A	A	PCB	A	A	A	PCB	P	GHW/PP	GHW/PP	PCB	THW	<10%	<50%	PCB	<50%

Source: GSTHR4

The following abbreviations were used in the construction of the table for clarity and consistency:

A – allowed
B – banned
P – prohibited
NVP – nicotine vaping products
NP – nicotine pouches
LACP - legally available consumer product
PCB - this product category is banned
MF - most flavours are available
TMMF - only tobacco, mint, and menthol flavours are allowed
TF or NF - only tobacco or no flavours are allowed
THW - text health warning
GHW or PP - graphic health warning or plain packaging
GR - general retail (regardless of licensing schemes)
SR - specialised retail only

South Korea, Sweden, South Africa, and Switzerland stand out with some of the most liberal regulatory frameworks for SNP

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Kazakhstan and Norway represent some of the most restrictive regulatory environments, where only one type of SNP is legally available

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the availability of SNP through general retail versus specialist retail channels further distinguishes liberal from restrictive markets

From this sample of countries, South Korea, Sweden, South Africa, and Switzerland stand out with some of the most liberal regulatory frameworks for SNP. In these countries, all four categories of SNP – nicotine vapes, HTP, snus, and nicotine pouches – are legally available. Additionally, these nations impose minimal restrictions on flavours (with the exception of Sweden for HTP) and allow wide availability through general retail channels (except in South Korea, where only specialist stores can sell SNP).

Conversely, Kazakhstan and Norway represent some of the most restrictive regulatory environments, where only one type of SNP is legally available – HTP in Kazakhstan and snus in Norway. Furthermore, Kazakhstan imposes the same restrictions on HTP as it does on combustible cigarettes.

In a range of other countries, such as Japan, Germany, China, Russia, and Lithuania, only two types of SNP are legally available. Others take a more selective regulatory approach, typically banning one type of SNP, often snus. This is especially the case in EU countries, where snus is generally prohibited. Uruguay is unique in this list as it bans only nicotine vapes, while other SNP categories are legally available.

Regarding flavours, existing restrictions primarily affect HTP, for which only tobacco or no flavour at all is typically allowed. The same restrictions apply to nicotine vaping products in China, Ukraine, Hungary, and Lithuania. Notably, no flavour restrictions are in place for snus and nicotine pouches in any countries where these products are legally available.

Sales restrictions and age limits are other tools used by governments to control the accessibility of SNP. The table reveals that most countries set the legal sales age for SNP at 18 years, aligning with global tobacco control standards. However, in Kazakhstan, Japan, and South Korea the restrictions are slightly more stringent, with age limits (for both cigarettes and SNP) at 21, 20, and 19 years, respectively.

The availability of SNP through general retail versus specialist retail channels further distinguishes liberal from restrictive markets. In countries like the UK, Indonesia, Sweden, and South Africa, SNP are widely available through general retail channels, making them accessible to consumers. In contrast, countries like South Korea, Italy, and Hungary restrict sales to specialist retail stores, which may require special licenses or for specific conditions to be met. This approach limits the accessibility of SNP, potentially reducing their appeal and use compared to combustible cigarettes.

Internet sales and point-of-sale (POS) display regulations add another layer of complexity to SNP regulation. In China, Russia, South Korea, Uruguay, Kazakhstan, and Lithuania, the sale of SNP through online retail channels is banned, which restricts consumer access, particularly in regions where physical retail options are limited. However, many European countries, including Italy, the UK, Sweden, Poland, and France, allow internet sales, recognising the growing trend of online shopping and providing consumers with convenient access to SNP.

Meanwhile, POS display regulations also vary widely, with some countries like Russia, Uruguay, Kazakhstan, Norway and Lithuania prohibiting the display of SNP at points of sale to reduce their visibility. Others allow it, making these products more visible and potentially more appealing to consumers who might otherwise choose combustibles.

Health warnings on SNP packaging range from simple text warnings to graphic health warnings (GHW) or plain packaging (PP). The majority of the countries in the selected sample use only text health warnings. These mostly differ from those on combustible cigarettes, focusing instead on nicotine addiction and potential health hazards associated with use of the product, rather than standard 'smoking kills' messages. However, South Korea, Indonesia, Uruguay, Kazakhstan, and Denmark have adopted more stringent measures, requiring either GHW or PP for specific categories of SNP.

Lastly, excise taxes on SNP and their rates vary widely. This influences the affordability and, consequently, the demand for these products. The picture around taxation is even more diverse than for the previously discussed regulatory domains.

Uruguay is the only country in the sample that does not levy excise taxes on the SNP categories legally available in the country.

Many countries, including Japan, Italy, Germany, Indonesia, South Korea, Sweden, and Denmark, tax all SNP categories that are legally available. Among these, South Korea and Indonesia impose relatively high taxes on SNP. Generally, HTP are the product category taxed most heavily compared to others. In contrast, nicotine pouches are mostly free of excise taxes.

Due to its importance and complexity, the taxation and pricing of SNP is further discussed in the following section.

tobacco control analysts often point to taxation as the most effective way of controlling product demand and influencing consumer choices

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by 2023, among countries permitting the sale of nicotine vapes, at least 52 had implemented taxes on them

Taxation and pricing of SNP

We have indicated the primary modes of tobacco control as imposed on SNP. Tobacco control analysts often point to taxation as the most effective way of controlling product demand and influencing consumer choices. This section explores the taxation and pricing of SNP, primarily focusing on nicotine vapes and HTP. We examine the tax regimes and rates applied to these products and assess how much the taxes are reflected in retail prices. Additionally, and importantly, we compare the affordability of SNP to that of combustible cigarettes.

Taxation of SNP around the world

With the emergence of vapes, HTP and other new nicotine and tobacco products, policymakers have used varied taxation strategies. By 2023, among countries permitting the sale of nicotine vapes, at least 52 had implemented taxes on them.[206] Of these, 37 tax all e-liquids, while 17 only tax those containing nicotine. Most countries impose a specific excise tax on e-liquids, with 30 applying a uniform tax rate and nine using a tiered system. An ad valorem system is used in 11 countries while four use a mixed system. A further 12 countries specifically tax vaping devices, typically imposing a lower tax burden on closed systems compared to e-liquids sold separately.

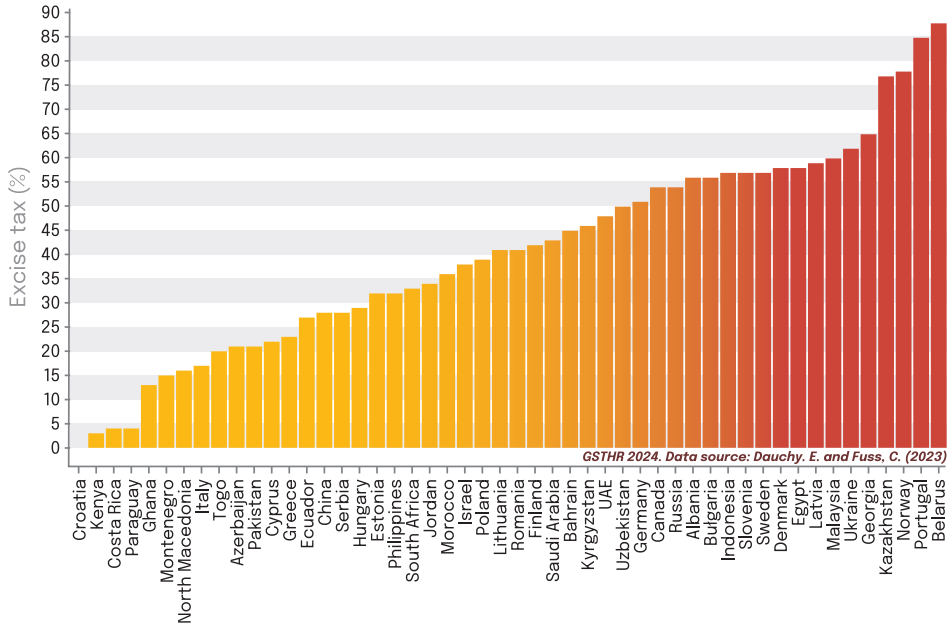
Table 5 Types of excise applied to nicotine vaping products, as of May 2023

Type of excise tax	Taxing only nicotine-containing e-liquids	Taxing all e-liquids
Specific uniform	Albania, Kazakhstan*, Kyrgyzstan, Portugal, Romania, Russia	Armenia, Azerbaijan, Belarus, Bulgaria, Croatia, Cyprus, Estonia, Finland, Georgia, Germany, Greece, Hungary, Latvia, Lithuania, Malaysia, Montenegro, North Macedonia, Pakistan, Poland, Serbia, South Africa, South Korea, Ukraine, Uzbekistan
Specific tiered	Denmark, Indonesia, Philippines, Sweden	Canada, Italy, Morocco, Slovenia
Ad valorem uniform	Bahrain, Ecuador, Jordan, Saudi Arabia	Costa Rica, Maldives, Paraguay, Togo, United Arab Emirates
Ad valorem tiered	China	
Mixed		Egypt, Ghana, Israel, Kenya

Source: Global taxation of ENDS and ENNDS: a cross-country evaluation and Recommendations for Taxation[207]
Note: While this table reflects the tax situation as of May 2023, Kazakhstan banned the sale of all types of nicotine vaping product in April 2024, with the ban taking effect in June 2024. As a result, excise taxes on nicotine vaping products are no longer applicable in that country (see Section Three: Eastern Europe and Central Asia for details).

Out of the 52 countries which tax nicotine vapes, Belarus had the highest excise tax burden at 88%. This was followed by Portugal at 85%, Norway at 78%, and Kazakhstan at 77%. Ukraine, Georgia, and Malaysia had excise tax burdens of 62%, 65%, and 60%, respectively. Nineteen countries had an excise tax burden exceeding 50%, while another 19% had burdens below 30%. The lowest excise tax burdens were noted in Costa Rica and Paraguay (both at 4%), Kenya (3%), and Croatia (0%).

Excise tax burden on e-liquids (2023)



Source: Global taxation of ENDS and ENNDS: a cross-country evaluation and Recommendations for Taxation[208]

Countries typically impose lower taxes on nicotine vaping products than on cigarettes. Among the 52 countries that levy taxes on e-liquids, data on excise tax rates or retail prices are missing for two countries. However, of the remaining 50 countries with available data, 15 impose a higher excise tax burden on nicotine vapes compared to cigarettes, which runs counter to the principles of risk-proportionate excise taxation.[209]

As of 2023, 66 countries levy taxes on HTP.[210] Most countries use a specific excise tax rate based on the weight of tobacco, which can be challenging for tax collection due to verification difficulties. Consequently, an increasing number of countries are opting to tax HTP per stick, irrespective of tobacco content.

Table 6 **Types of excise applied on HTP, as of 2022**

Type of Excise Tax	Base unit	Country
Specific	Kg of tobacco	Albania, Austria, Belarus, Bosnia and Herzegovina, Bulgaria, Canada, Croatia, Cyprus, Czechia, Denmark, Estonia, Greece, Iceland, Indonesia, Ireland, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Montenegro, Morocco, Netherlands, New Zealand, North Macedonia, Pakistan, Romania, Russian Federation, Serbia, Slovakia, Slovenia, Sweden, United Kingdom
	Sticks	Armenia, Azerbaijan, Hungary, Italy, Japan, Jordan, Peru, Philippines, Republic of Korea, Republic of Moldova, South Africa, Ukraine, United States of America
Ad valorem	Retail price	Costa Rica, Ecuador, Paraguay, Spain, Switzerland
	Retail price excluding VAT	Saudi Arabia, United Arab Emirates
Mixed	Kg of tobacco / Retail price	Finland, France, Germany, Poland, Portugal
	Sticks / Retail price	Colombia, Georgia
	Sticks / Wholesale price	Israel, Palestine

Source: Perucic AM, Sandoval RC, Malik S, Morales-Zamora G. Taxation of novel and emerging nicotine and tobacco products (HTP, ENDS, and ENNDS) globally and in Latin America. Rev Panam Salud Publica. 2022;46:e175.[211]

In 2023, data from 66 countries showed no instances of HTP being taxed higher than cigarettes, while only a few countries have equal tax rates for HTP and cigarettes.[212] This trend extends to the excise tax burden as well, where the majority of these countries have a lower excise tax burden on HTP. Therefore, taxation seems to be a lesser obstacle for the uptake of HTP, at least in comparison to cigarettes.

Taxation of SNP and rates of excise tax are rapidly changing worldwide, along with regulatory frameworks. An increasing number of countries are introducing excise taxes on these products or raising existing excise tax rates. However, as of 2024, where SNP are legally available, they generally enjoy more favourable taxation compared to cigarettes – although not always proportionate to their relative harms. The maps below illustrate the diverse taxation approaches to various SNP globally.

among 50 countries with available data, 15 impose a higher excise tax burden on nicotine vaping products compared to cigarettes

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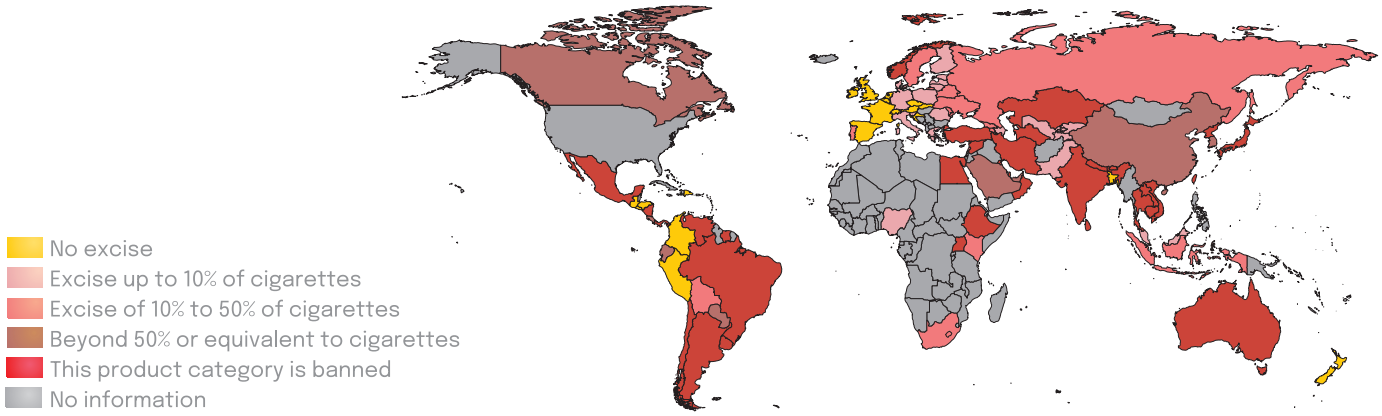
data from 66 countries showed no instances of HTP being taxed higher than cigarettes, while only a few countries have equal tax rates for HTP and cigarettes

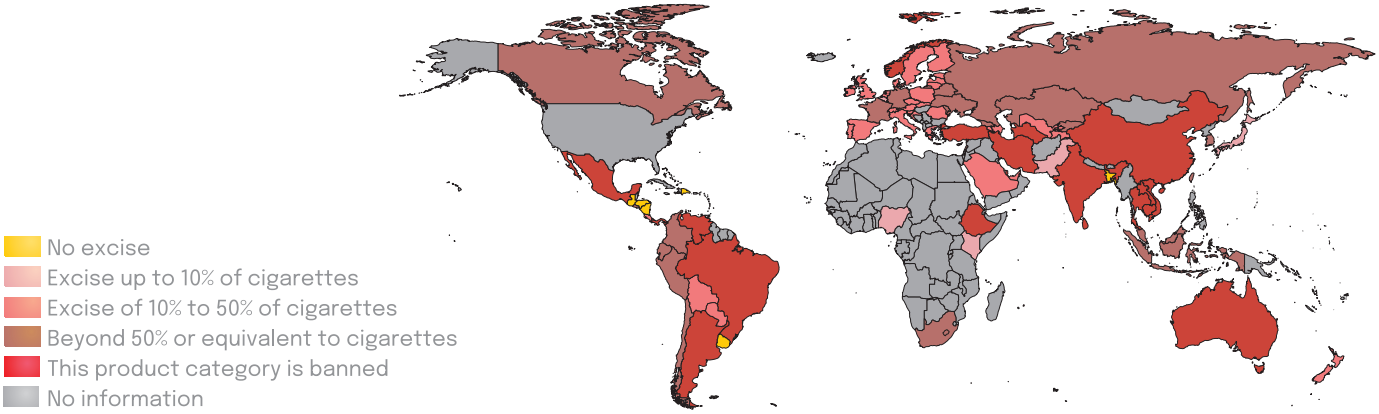
Excise duty on nicotine vaping products

compared to excise duty on cigarettes



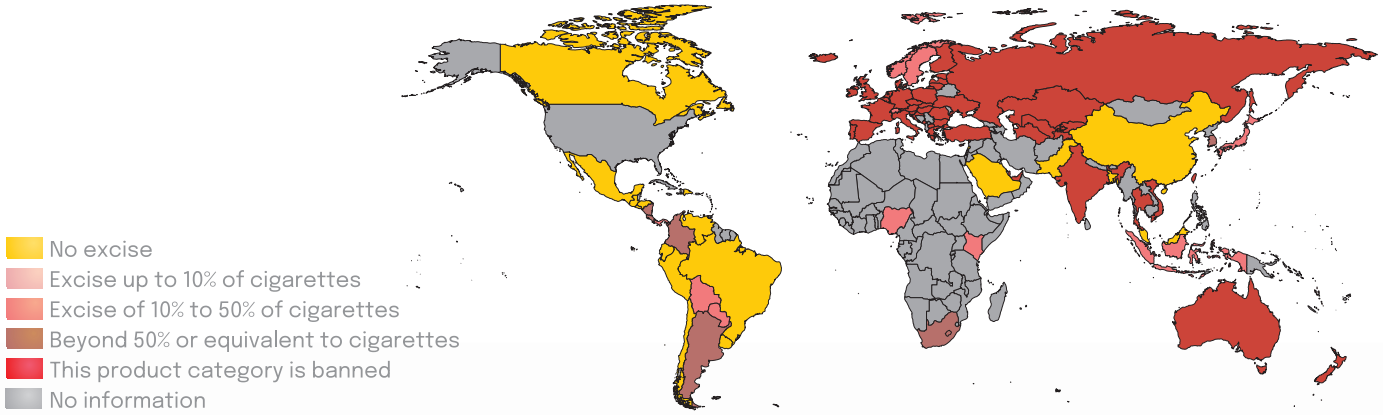
Excise duty on heated tobacco products

compared to excise duty on cigarettes

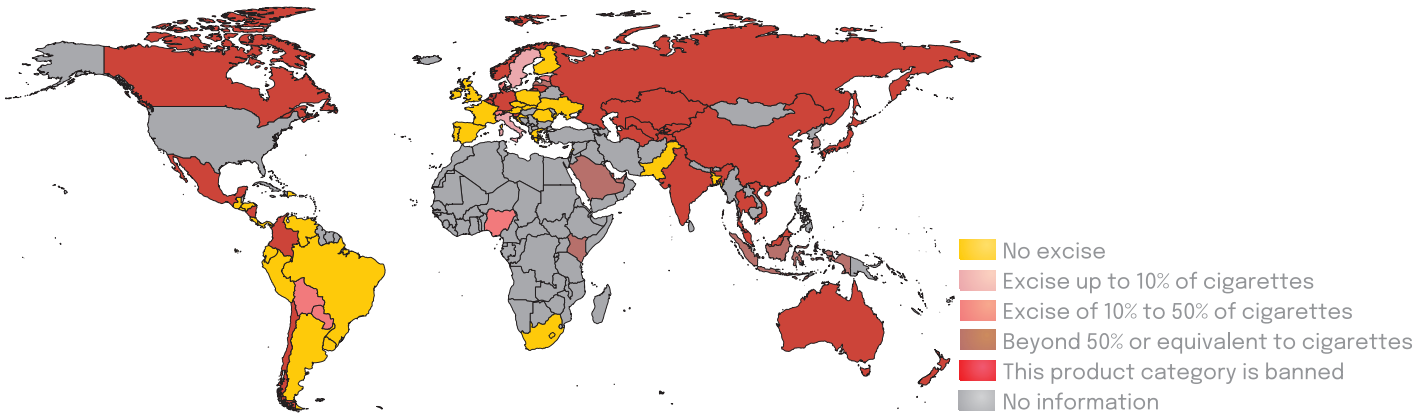


Excise duty on snus

compared to excise duty on cigarettes



Excise duty on nicotine pouches
compared to excise duty on cigarettes



SNP prices compared to cigarettes

Despite favourable taxation, SNP prices are not always lower than cigarette prices. A 2017 study compared the price of combustible cigarettes, disposable e-cigarettes, e-liquids, and e-liquids with rechargeable devices in 45 countries.[213] Despite favourable taxation, combustible cigarettes were still more affordable than nicotine vaping products. Specifically, disposables were 3.2 times more expensive than cigarettes in LMIC and 1.3 times more expensive in HIC. E-liquids alone were more expensive than cigarettes in LMIC by 27%, while they were priced at only 44% of cigarette prices in HIC.

A 2019 study of 34 countries found that HTP, despite being taxed at lower rates than cigarettes, were more expensive in half of the surveyed national markets.[214] By 2023, data indicated that HTP were generally cheaper than cigarettes, except in Poland, South Korea, and Uzbekistan.[215] In 17 of the countries surveyed, the price difference between HTP and cigarettes was a mere 10%, whereas in the UK and New Zealand, HTP were notably cheaper, costing 2.5 times less than cigarettes.

The initial cost of the devices needed to consume e-liquids or heated tobacco adds another significant cost barrier to switching from smoking to vaping. According to the same 2017 study, accounting for the combined cost of e-liquids and vaping devices, they were less affordable than cigarettes in almost all countries, except the UK.[216]

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instead of lowering prices to encourage consumers to switch from cigarettes to safer products, companies leverage these tax benefits to increase their profit margins

A 2022 study comparing the cost of nicotine across different products in Switzerland, Germany, the USA, Sweden, France, and the UK found that when adjusted for device price, HTP cost more than regular tobacco products (except in the USA) and other nicotine-containing products.[217] Considering that cigarette taxes and prices in those countries are generally high and significantly higher than in LMIC, it is likely that this finding holds true in other HIC, while the difference will be much greater in LMIC.

The primary reason why lower taxes on SNP are not fully reflected in lower prices compared to cigarettes lies in the industry's strategy and pricing. Research raises concerns that tax advantages may primarily benefit producers by allowing them to maintain higher profit margins on SNP. Instead of lowering prices to encourage consumers to switch from cigarettes to safer products, companies leverage these tax benefits to increase their profit margins.[218]

Indeed, data from 2023 shows that the difference in excise taxes between cigarettes and HTP was, in most cases, greater than the retail price differences, supporting this argument.[219] Industry reports also suggest that HTP producers employ this pricing strategy, positioning HTP sticks as value-oriented compared to premium brand cigarettes, and enjoy significantly higher profits from selling HTP compared to cigarettes.

demand for nicotine vapes is more sensitive to price changes than demand for cigarettes

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higher vape prices significantly increase the likelihood of smokers opting for conventional cigarettes without influencing their decision to quit

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although many countries tax SNP at lower levels than cigarettes, the discrepancy in tax rates between SNP and cigarettes often fails to mirror the actual difference in health risks

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government subsidies for SNP, to encourage uptake by adults who smoke, present an unconventional perspective which diverges from traditional tobacco control approaches

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the UK stands out as a country that already provides subsidies and preferential tax treatments for smoking cessation products

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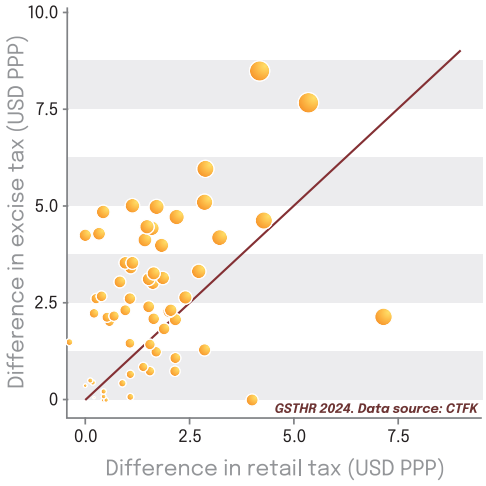
subsidising NRT in Sweden is cost-saving and removes financial barriers, particularly for socioeconomically disadvantaged smokers

Excise and price gaps between cigarettes and HTP (2003)



Source: Campaign for Tobacco-Free Kids: Heated Tobacco Products and Cigarettes Taxes and Prices Around The World[220]
Note: The excise tax gap is defined as the difference between the excise tax rate on cigarettes and the excise tax rate on HTP. Similarly, the price gap refers to the difference between the price of cigarettes and the price of HTP.

Additional reasons for the higher cost of HTP compared to cigarettes may include the significant initial investment that companies had to make in product development. This made their sales unprofitable during the first years the products were on the market. Ongoing research and development efforts to improve existing technologies and create new products also contribute to higher costs.

Optimal SNP taxation

The literature recommends implementing excise taxes on traditional tobacco products through simple tax structures, employing metrics like the number of cigarettes, packs, or weight as a basis.[221,222] However, designing an optimal taxation strategy for SNP is more complex for several reasons. Firstly, their consumption behaviour differs from that of cigarettes. Secondly, SNP present significantly lower health risks, thereby offering public health benefits, not costs. Lastly, the diversity and constant evolution of these products add to the complexity of establishing an effective taxation framework.

The WHO advises imposing taxes on SNP, recommending that HTP be taxed at the same rate as cigarettes to discourage use by youth and non-users.[223] They also suggest taxing e-liquids uniformly, regardless of nicotine content, and considering taxes on the devices themselves. Similarly, the World Bank advocates for increasing excise taxes on nicotine vapes, combined with even higher taxes on cigarettes, to prevent non-smokers from starting nicotine vape use, reduce dual usage, and encourage those who smoke to switch to vapes.[224]

However, current scientific evidence suggests that these recommendations might lead to negative public health outcomes.

Research shows that the demand for nicotine vaping products is highly responsive to price changes, with estimated own-price elasticity ranging from -0.8 to -2.2.[225,226,227,228,229] This means that for every 1% increase in the price of vaping products, the demand falls by 0.8% to 2.2%, suggesting the demand for nicotine vapes is more sensitive to price changes than it is for cigarettes.

Additionally, studies have established that nicotine vaping products and conventional cigarettes are economic substitutes; a price increase in conventional cigarettes tends to boost nicotine vape sales, and vice versa.[230,231,232,233] Experimental studies

highlight that higher vape prices significantly increase the likelihood of smokers opting for conventional cigarettes without influencing their decision to quit. This indicates that taxing nicotine vaping products could shift vapers back to smoking.[235] Conversely, higher combustible cigarette prices not only decrease the likelihood of choosing cigarettes but also increase the likelihood of choosing nicotine vaping products or quitting altogether.

Therefore, these findings suggest that raising taxes on conventional cigarettes could motivate people who smoke to switch to significantly less risky nicotine vaping products. It could also motivate people to quit using tobacco and nicotine products entirely. However, imposing or increasing excise taxes on nicotine vaping products may encourage the uptake, continuation or re-initiation of smoking among both youth and adults.[236] These conclusions might be generalised to other SNP as well.

Although many countries tax SNP at lower levels than cigarettes, the discrepancy in tax rates between SNP and cigarettes often fails to mirror the actual difference in health risks. Following the evidence suggesting that nicotine vaping products and snus are 95% and 98% safer than smoking, relative tax rates should be in line with their reduced risk. Assuming these tax differences are reflected in retail prices (and not in increased producers' profit margins), it would both acknowledge their lower harm and promote their use as substitutes for combustible tobacco products.

However, the diverse nature of SNP poses a challenge in establishing an optimal taxation framework for them. The complexity of determining appropriate tax bases, along with the challenges of monitoring and collecting taxes from SNP, could lead to policies that exacerbate rather than address market failures associated with smoking.[236] Additionally, the administrative costs of taxing SNP proportionately to their relative risks might outweigh the tax collection itself, potentially having a negative fiscal impact. These considerations suggest that applying zero excise tax rates on SNP might be the most effective taxation strategy, representing a feasible approach for governments to adopt.

Exploring government subsidies for SNP, to encourage uptake by adults who smoke, presents an unconventional perspective which diverges from traditional tobacco control approaches.[237] The primary rationale behind subsidising SNP is to improve public health outcomes, through the provision of direct government support to reduce the cost of safer alternatives compared to combustible tobacco products for individual consumers. This financial assistance aims to lower barriers, encouraging smokers to switch to SNP and thereby potentially mitigating the health risks of smoking. This approach aligns with harm reduction strategies that prioritise minimising the adverse health consequences of nicotine use or dependency through safer nicotine delivery mechanisms.

The UK stands out as a country that already provides subsidies and preferential tax treatments for smoking cessation products, particularly those classified as medicinal. The UK applies a reduced VAT rate of 5% to NRT products, compared to the standard 20% VAT for consumer goods.[238] While nicotine vaping products licensed as medicinal products would also qualify for this tax reduction, it is important to note that currently no vape on the market holds such a license.

Furthermore, the UK's National Health Service (NHS) offers a programme to make NRT products, such as patches, gums, inhalers, sprays, and lozenges, as well as prescription drugs aimed at helping people quit smoking, more accessible and affordable. These products can be prescribed by doctors, and the cost can be reduced or completely covered depending on an individual's income.[239] A 2020 study analysing the impact of this NHS programme in England found that it contributed to 15.3% of the overall 10.8% reduction in smoking prevalence between 2001 and 2016, highlighting its effectiveness.[240] The 'Swap to Stop' programme – currently being rolled out at the time of writing – is a world-first, that will see nicotine vape starter kits given free of charge to around a million adults who smoke.[241]

A 2023 study analysing the cost-effectiveness of subsidising NRT in Sweden found that this cessation policy is cost-saving and removes financial barriers, particularly for socioeconomically disadvantaged smokers. This may play a role in reducing health inequalities.[242] Considering the evidence demonstrating the greater effectiveness of vapes compared to NRT in encouraging smoking cessation, subsidising SNP will likely lead to even greater public health and economic gains.

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Conclusion

New ways of consuming nicotine have developed so quickly over the past twenty years that governments have been unsure as to the most appropriate regulatory regime to adopt. The WHO has tried to fill this vacuum of uncertainty. Using its influence at meetings of the FCTC COP, the WHO has encouraged countries to adopt a progressively more prohibitionist approach to regulating new products, while denying that any public health benefit can be gained from enabling people who smoke to switch to SNP. This directly contradicts the weight of scientific evidence in relation to nicotine vaping and smoking cessation, as well as the experiences of millions of people who have successfully quit smoking by switching.

While the phrase 'harm reduction' appears in the FCTC, it still remains undefined. But there were interventions from a handful of countries at COP10 indicating that the conversation cannot be put off forever, and COP11 in 2025 will be one to watch.

Despite the WHO's encouragement toward prohibition, however, tobacco control remains solely a matter for domestic regulation. In that respect, the regulatory landscape for SNP is both very diverse and constantly evolving. In big picture terms, in 2009, four countries had banned the sale of nicotine vaping products. By 2024, there were 40. Even since 2018, the regulatory landscape has been anything but stable. Some countries have imposed new bans on nicotine vapes, while others have relaxed their laws, making vape products legally available.

But what does it mean when it is claimed that to country has 'banned' vaping, or any SNP category? A ban can range from an outright prohibition on the sale, production and import of SNP, to a de facto ban. And even legality comes with its complexities. In this chapter we have distinguished between countries where SNP are on sale as consumer products under tailored regulation, where they are on sale in the absence of specific legislation, but covered under tobacco laws. And, of course, there are countries where there is no information available on the regulatory status of various product categories, or where they are outside the legal framework neither banned nor

regulated. In many of these countries, the upshot is that consumers are left in the dark – and more likely to remain using the nicotine delivery system they are most familiar with, the combustible cigarette.

As well as product legality, there are other regulatory domains that significantly impact consumers and their likelihood to adopt SNP. These include the availability of flavours, retail restrictions (both internet and domestic sales points), advertising and promotion, health warnings and labelling, product content, and taxation. These policies vary considerably across different countries. All of these policy levers should be directed towards encouraging more people who smoke to switch to safer products. And a tobacco industry that grandstands about a non-combustible future must ensure that lower, risk-proportionate tax rates for SNP are reflected in price points that make switching more cost-effective to adults who smoke.

But despite the many regulatory obstacles to product access as of 2024, our research shows that at least one kind of SNP (nicotine vaping products, HTP, snus or nicotine pouches) is legally available in 129 countries. That covers four billion people, representing 71% of the global adult population. Given that combustible cigarettes, the most lethal method of nicotine delivery, are legally on sale in every country worldwide, increasing access to safer products that can act as actual and economic substitutes should only be seen as good news for public health.

Unfortunately, the legislative response to SNP in many countries, particularly LMIC, has too often been caught up in a web of financial, political, professional and ideological interests laced together by mis- and disinformation from public health agencies, medical organisations and charities that are otherwise credible. The result has been nothing short of an 'infodemic', the subject of the next chapter.

Chapter Five:
The challenges to tobacco harm reduction

many fears have developed as a result of poor quality science on SNP, or have formed through persistent exposure to mis- and disinformation about SNP and THR

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the arrival of vaping was the creative disruption in the delivery of nicotine that opened up new possibilities in THR

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there is no doubt that concern over the tobacco industry's involvement has negatively impacted attitudes to vaping and other SNP

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the arrival of SNP onto domestic markets dominated by state-owned tobacco companies might not be welcomed by governments with economic interests in tobacco manufacturing

To reach its potential and hasten an end to smoking, tobacco harm reduction must overcome a multitude of challenges, many of which have been discussed in previous chapters. But here, we will propose that some of the most significant challenges to THR are both more fundamental and more intangible. This is because they are rooted in people's attitudes and emotions, in their ideals and moral outlook.

The arrival of most major disruptive technologies bring with them understandable concerns about unintended or unforeseen consequences when they first arrive. This chapter considers fears about safer nicotine products (SNP), which often centre on the role of the tobacco industry, the perceived health risks of nicotine, their use among young people, and more recently, their environmental impacts. Many fears have developed as a result of poor quality science on SNP, or formed through persistent exposure to mis- and disinformation about SNP and THR. There are active campaigns that seek to undermine and discredit THR and those who advocate for it.

There is frustration among those who advocate for THR that a lack of trust in the approach is drawing focus from the much bigger crisis: the eight million people who die every year as a direct result of smoking. Ultimately, however, until the trust issue is overcome among all stakeholders – including people who smoke, people working in tobacco control, health professionals, policymakers, and the media – harm reduction for tobacco will not reach its full potential.

Distrust of the tobacco industry and its motives

As highlighted earlier in this report, views about SNP and their role in smoking cessation are polarised among experts who work in tobacco and nicotine research. In this regard, THR has similarities with other contested areas of science and health research.

The arrival of vaping was the creative disruption in the delivery of nicotine that opened up new possibilities in THR. When the first vaping products emerged in the early 2000s, they did so with little fanfare, remaining fairly niche for several years. These products were either manufactured and sold directly by Chinese companies, or by independent companies working with suppliers in Shenzhen. It is fair to say that many professionals, even those with an interest in smoking cessation and tobacco control, were broadly unsighted on their arrival. And while the industry was in the hands of small and medium size non-tobacco companies, it generally remained under the radar of political and media scrutiny.

Once vaping increased in popularity among consumers, this began to change. Health researchers started to pay more attention to vaping products, to consider their potential risks as well as their potential benefits to public health. Our first biennial report in 2018, No Fire, No Smoke, quantified this surge of interest. From 2007-12, there were a total of 53 publications recorded which had the terms 'e-cigarette', 'electronic cigarette', or 'e-cig' in either the abstract or the title. Between 2013 and 2017, that figure jumped to over 1500.[243]

But it was not only among researchers that interest had been piqued. With proof of consumer demand, from 2012 onwards, tobacco companies began to take a stake in vaping. This development marked a major shift in attitudes in

the health and tobacco control community. As noted in Chapter Four, in documentation prepared for COP7 in 2016, the WHO stated unequivocally: "the engagement of traditional tobacco transnational companies in the marketing of ENDS/ENNDS is a major threat to tobacco control."[244] It is both unsurprising and understandable that concerns would be raised, given the tobacco industry's egregious history of deception about the dangers of smoking (see Chapters Two and Three).

There is no doubt that concerns about the tobacco industry's involvement have negatively impacted attitudes to vaping and other SNP. But these suspicions are coupled with a limited understanding of who is actually producing many of the products. As shown in Chapter Three, the reality is that the majority of vaping products are *still* made by non-tobacco industry players. PMI, JTI and BAT combined command around 26% of the global nicotine vaping product market share by value.[245]

This does little to allay concerns, however – especially as those same companies still manufacture and make most of their profits from cigarettes, are the sole manufacturers of HTP and are increasingly moving into oral nicotine products. From the moment that traditional tobacco company involvement in SNP production began, there was a marked increase in hostility, not only towards individual products, but also towards the very concept of THR.

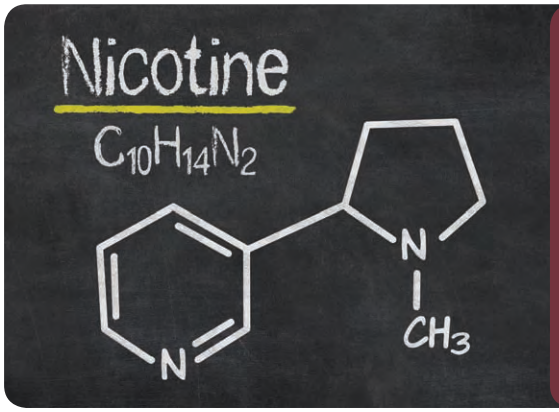
The subsequent adoption of the phrase 'tobacco harm reduction' by some tobacco companies, as part of their communications about transitioning away from combustibles, has unfortunately done nothing to improve trust in the approach.[246] The tobacco industry's legacy is colouring what should be an objective, science-based and evidence-led assessment of THR, which has the potential to be one of the most impactful public health advances of our time. While discomfort at the involvement of the tobacco industry is understandable, the reality is, as always, complex.

As noted in Chapter Three, unless those tobacco companies who have stated their ambitions to transition to manufacturing SNP are permitted to do so, there is a risk they will return to a combustibles-led, business-as-usual model. There are few major Research and Development costs associated with the combustible cigarette – in contrast to the costs of developing new SNP. Over a billion people still smoke, so profits will continue coming in. The tobacco industry is not simply going to disappear because it has been wished away. It sells a highly profitable consumer product that, as well as being lethal, is legally sold in every country in the world.

Although they garner a significant amount of attention – and criticism – the companies that have identified a desire to transition toward SNP are actually very few. The majority of global tobacco production is not in their hands, but in those of major state-owned or state-involved companies. The Chinese National Tobacco Corporation is the world's largest manufacturer of cigarettes.[247] In most of these organisations, transition to SNP is not even on the agenda. The arrival of SNP onto domestic markets dominated by state-owned tobacco companies might not be welcomed by governments with economic interests in tobacco manufacturing.

Intertwined with concern about who manufactures SNP, however, is another barrier to the acceptance of THR: fear of nicotine's perceived risks to health.

Perceived risks of nicotine



Concern about the health risks of nicotine appear to cluster into three main groups:

1) Conflation of the risks between smoking and nicotine use;
2) The absolute risks of using nicotine, in isolation from smoke;
3) Nicotine dependence.

empowering smokers to make sensible choices will require supporting them to develop the necessary understanding through public health messaging of the relative harms of combustion in relation to other sources of harm from smoking tobacco

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although nicotine dependence is undoubtedly real, without the accompanying risks of smoking, long-term use of nicotine has been determined to be safe

Most people know that smoking is very dangerous for their health; if asked what is in cigarette smoke, the majority are unable to identify benzene, cadmium, formaldehyde or any of the other harmful chemicals released when a cigarette burns. They are, however, much more likely to be able to identify nicotine and tar. The association appears clear in many people's minds: nicotine must be harmful in itself.

Evidence of this confusion is supported by data from the International Tobacco Control Four Country Smoking and Vaping Survey. Researchers analysed the responses of people who smoke to understand their perceptions of the relative contributions to smoking-related morbidity from combustion products, nicotine, other substances present in unburnt tobacco and additives, and the impact this may have on their intention to use vaping products to quit. The study found that "most smokers lack conceptual coherence about smoking harms, with many either not knowing the relative harm that combustion, nicotine, additives, and unburnt tobacco cause or reporting inconsistent responses". The researchers concluded that:

> "Health educators should be aware that many smokers have inadequate knowledge to make informed decisions, and do not automatically make logical integrating links between information. Empowering smokers to make sensible choices will require supporting them to develop the necessary understanding through public health messaging of the relative harms of combustion in relation to other sources of harm from smoking tobacco. This may also help them recognize and reject the misleading messages to which they are often subjected."[248]

Healthcare professionals have also been shown to misunderstand the type and nature of the risks of nicotine. This has been demonstrated in multiple studies and in multiple countries over time. A study of US nurses in 2007, published in *Nicotine and Tobacco Research*, found that 60% believed that nicotine causes cancer and 72% believed that nicotine patches could cause heart attacks.[249] A study of US physicians in 2020, published in the *Journal of General Internal Medicine*, found that "the majority of physicians 'strongly agreed' that nicotine directly contributes to the development of cardiovascular disease (83%), COPD (80%), and cancer (81%)."[250] And a survey of 15,335 physicians in 11 countries, conducted by Sermo and funded by Global Action to End Smoking in 2022, found that 97% of doctors in Indonesia, 91% of doctors in China, and 88% of doctors in India believed that nicotine caused lung cancer.[251]

These misperceptions persist despite the fact that nicotine has been used in NRT products for many years, and joined the WHO's Model List of Essential Medicines in March 2009.[252]

Fears about 'addiction to nicotine' are also frequent and significant. Although nicotine dependence is undoubtedly real, without the accompanying risks of smoking, long term use of nicotine has been determined to be safe.[253] Isolated from smoking, many people enjoy and find that they benefit from their use of the substance, and in the form of SNP, they can do this with relatively low risks attached.[254] Yet the words 'addiction' and 'dependence' are heavy with cultural connotations, judgements and stigma. A study published in the *International Journal of Drug Policy* asked people who smoke about their attitudes to what they termed 'clean nicotine' products. It found that:

> "Many smokers are interested in using clean nicotine, but do not want to replace their addiction to smoking with addiction to an alternative product. Negative attitudes towards nicotine addiction may be a deterrent to harm reduction approaches that entail the continued use of nicotine."[255]

There are challenges ahead in navigating a social and cultural reassessment of nicotine without smoke, and this is in no small part due to concerns about how the use of SNP affects young people. However, in order to maximise the smoking cessation potential of SNP, directly working to overcome fears related to nicotine among people who smoke, among healthcare professionals and among policymakers will be essential in order to expand delivery of and trust in THR.

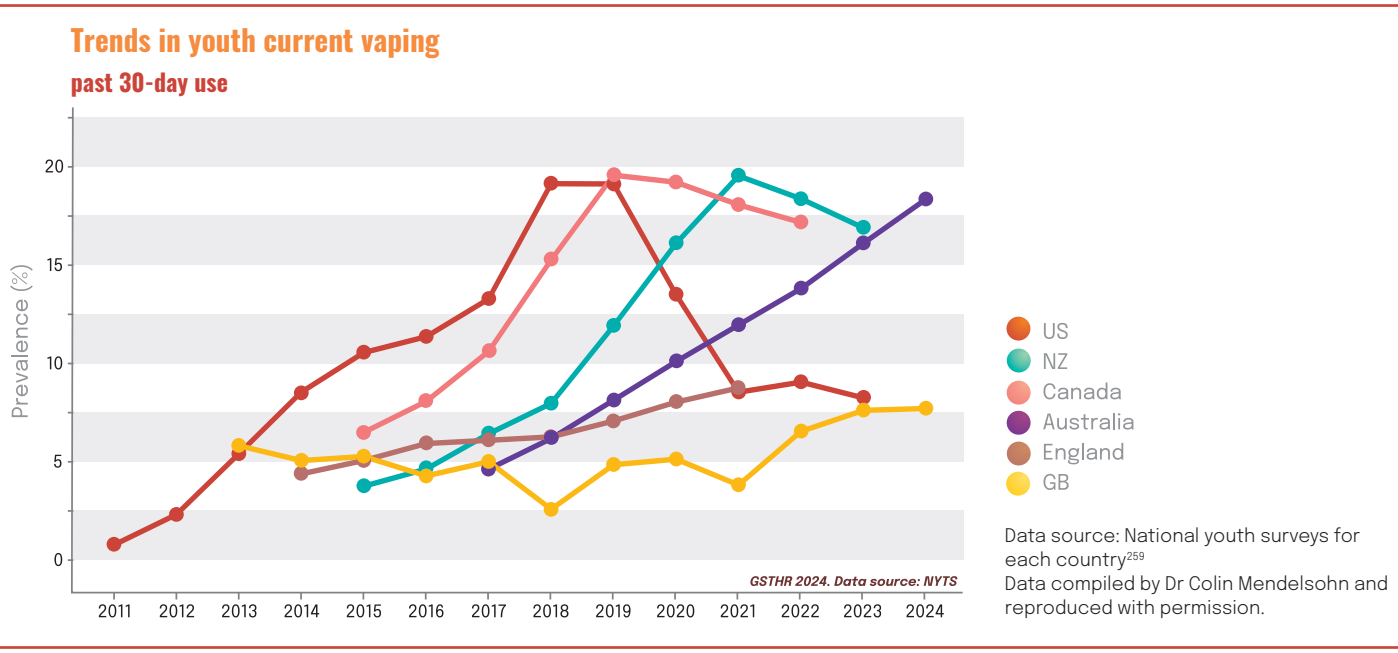
Vaping and young people

It is unsurprising that some young people have been attracted to experiment with vaping. It is also unsurprising that this would raise concerns – among health researchers, parents, educators and politicians. Driven by significant media interest, concerns about young people vaping have been exacerbated by the recent and rapid rise of cheap single use vapes in a wide range of flavours. This has been characterised by some as part of an attempt by 'Big Tobacco' to draw in young nicotine users as cigarette sales fall.

Effective regulation and enforcement is necessary to restrict access to those who are underage and curb any inappropriate sales or marketing. But much of the anxiety about young people's use of SNP builds on people's existing fears of nicotine, its perceived risks to health and the threat of addiction – some of which may be inaccurate or exaggerated.

Official pronouncements, public or NGO-led campaigning, and some science reporting, have raised concerns among the general public about 'epidemic' levels of vaping among young people.[256,257] In many countries, these concerns have had political ramifications, in the form of overly restrictive legislative controls or prohibitions which prevent adults who smoke from accessing safer products.

How valid are such claims of an 'epidemic'? The data are largely limited to those HIC which represent the most significant vaping markets. The chart below detailing trends in youth vaping in a number of HIC is compiled using national data from each country listed.[258] It shows that from a peak in 2018-21, the trends in youth vaping are beginning to decline in a number of countries. The exceptions to this are the UK (labelled GB), which remains on an upward curve, and Australia, which – despite imposing very restrictive regulation – is experiencing a significant rise.

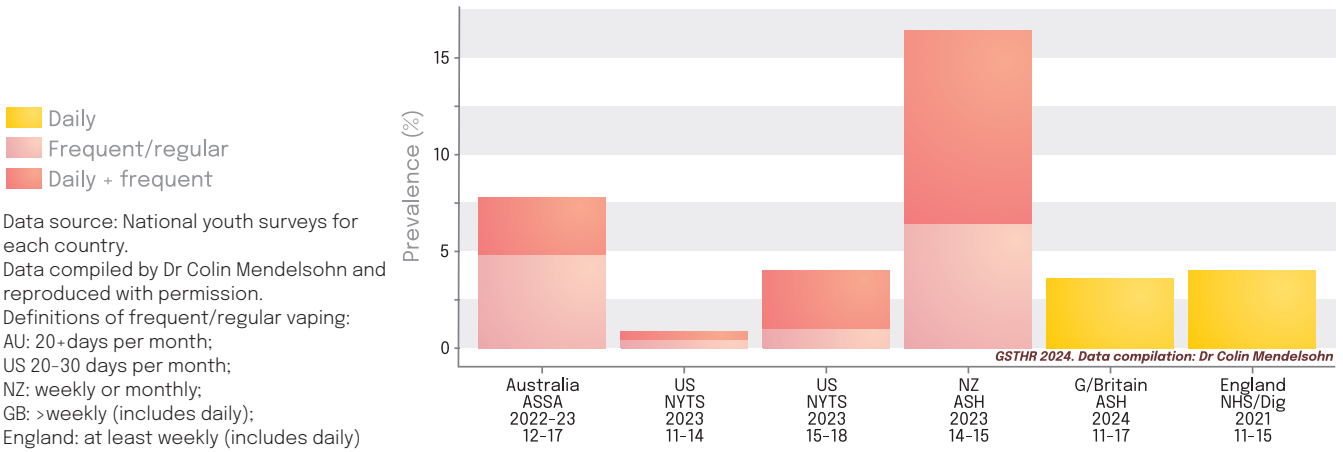


Data source: National youth surveys for each country[259]
Data compiled by Dr Colin Mendelsohn and reproduced with permission.

The chart above shows that the most dramatic fall in youth vaping has taken place in the US. This has had little impact on US-based campaign groups who continue to focus on the teen vaping narrative.[260]

When exploring the results of various surveys and studies it is important to recognise that most youth who experiment with vaping are not frequent users.[261] For example, in Australia in 2022-2023, while around 15% of youth reported 'current' vaping, only 3% vaped 'daily'. In the US, only 3% of youth vaped 'daily', with 4% involved in 'frequent' vaping. Similar patterns are observed in other countries, indicating that much of youth vaping is temporary experimentation rather than habitual use. This pattern of temporary experimentation is aligned with the findings that most youth engage in vaping out of curiosity, boredom, or social reasons, rather than as a habitual practice.[262]

Daily and frequent youth vaping

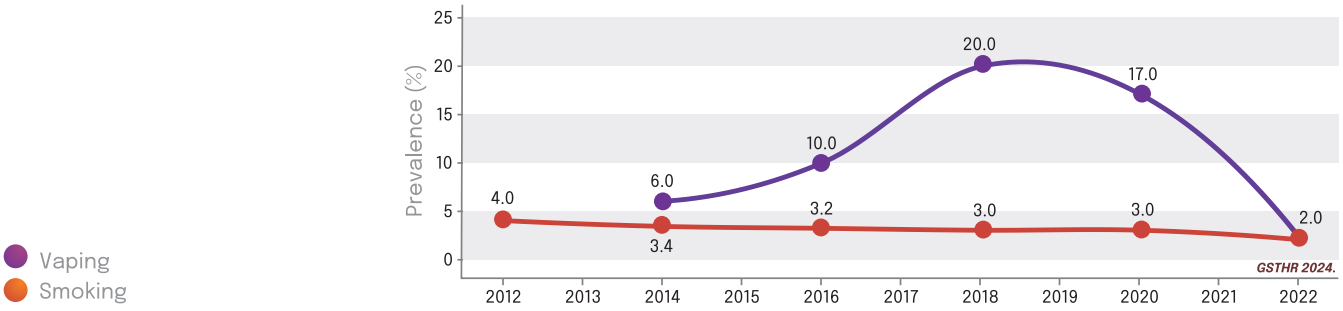


Data source: National youth surveys for each country.
Data compiled by Dr Colin Mendelsohn and reproduced with permission.
Definitions of frequent/regular vaping:
AU: 20+days per month;
US 20-30 days per month;
NZ: weekly or monthly;
GB: >weekly (includes daily);
England: at least weekly (includes daily)

In Canada, youth vaping rose temporarily after 2018 when vapes were legalised, but then returned to very low levels, as shown in the chart below. A small upturn in use, prior to a return to the status quo, mirrors other situations when banned products or substances have become legal (for example, cannabis).[263,264]

Past 30-day smoking and vaping

Canadian students years 6/7–12



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Even in countries without evidence of widespread youth vaping, vape bans have been introduced under the banner of 'protecting young people'. The prohibitive stance taken by the Indian authorities offers one such example. In 2019, the government announced a ban on e-cigarettes "to prevent a youth 'epidemic'".[265] Yet in 2022, the authors of a study of adolescent vaping in India admitted, "there is [a] dearth of qualitative data on adolescent use of e-cigarettes in the country".[266] The study was limited to 24 teenagers who self-reported vaping. Data from the Global Adult Tobacco Survey, a study of 14 countries covering the earlier years of 2015-2018, identified fewer than 186,000 people in the whole of India who were current users of vapes. This in a country with a population of 1.5 billion, over 80 million consumers of combustible tobacco products and 199 million consumers of smokeless tobacco products.[267,268]

Kazakhstan presents another case. In June 2024, the country banned the production, import, and sale of e-cigarettes. While this was ostensibly to protect younger generations, official data hardly supported claims of an 'epidemic'. In May 2023, Deputy Nurgal Tau proposed the ban to the country's Prime Minister Alikhan Smailov, stating:

> "Electronic cigarettes destroy human lungs… According to the results of a study conducted by the WHO in Kazakhstan, the number of adolescents aged 11 to 15 using electronic cigarettes has tripled in four years. The current epidemic of addiction to electronic cigarettes is growing at a progressive rate."[269]

The most recent data from the Health Behaviour in School-Aged Children Survey (HBSC) conducted in Kazakhstan in 2022 found that 5.8% of children reported e-cigarette use in the past 30 days (current vaping) with 9.8% having used e-cigarettes once or twice in their lifetime.[270] Whether this can be defined as an epidemic is perhaps a moot point, as the products are banned.

Vaping and environmental concerns

As noted earlier, the rise of the single-use vape has been both dramatic and fast. Concern about young people's use of vapes is now accompanied by consternation about the negative environmental impact of single-use vapes. This has become a very visible problem in many places, with single-use vapes and vape packaging now a regular addition to the tonnes of litter thoughtlessly discarded every day on streets, in parks and on beaches.[271]

Single-use vapes – and to a certain extent, other vaping devices and some other safer nicotine products – pose specific challenges in terms of the environment and sustainability. The need to limit single-use plastics is relevant both to disposable devices and e-liquid bottles. There are issues over the sourcing and use of lithium, a limited natural resource, particularly for single-use products. And there is also the question of how to dispose of these batteries safely, avoiding potential contamination and fire risks.[272] Some parts of the vaping industry are responding to these problems, including by incentivising the return of used vapes for recycling, and improvements to device design and electrical waste disposal.[273]

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The context of SNP waste should be viewed in the far more significant issue of cigarette waste. In 2023, an article in the *Journal of Hazardous Materials* found that cigarette butts are one of the world's most frequently littered items. The authors noted that "the low biodegradability of cellulose acetate filters and toxic chemical leaching from cigarette butts are the most important aspects of [their] environmental toxicity".[274]

With environmental concerns high on political, media and societal agendas, awareness of these problems has now been hitched to the wagon of anti-THR campaigning, seized on as another useful tool by the people and organisations who oppose and seek to discredit the concept.

Bad science – which can inform bad policy

Research that investigates the safety profile of all nicotine-containing products, their efficacy as smoking cessation tools and the applicability of harm reduction strategies is essential to the future of THR. Most researchers produce independent and well-constructed studies that do just that.

Unfortunately, however, there have also been numerous instances of research published in peer-reviewed journals that have used flawed methodologies and come to unwarranted conclusions. Several high-profile retractions have occurred after complaints.[275] In one now infamous example, a study, conducted by UCSF's Stanton Glantz and published in the *Journal of the American Heart Association*, claimed that vaping doubled the risk of heart attacks. It was retracted after it was confirmed that the majority of the heart attacks experienced by study participants occurred before people began vaping.[276]

In an article for *Tobacco Reporter* in 2023, policy consultant Clive Bates listed a number of flaws he has frequently observed in studies about SNP.[277] Some of his points are paraphrased and summarised here:

Poor toxicology. If a product, for example vape liquid, contains a dangerous chemical, this may not make it toxic – there must be sufficient exposure to cause harm.

Lack of meaningful comparisons. Many studies fail to show data on the effects of smoke-free products with context, for example in comparison to cigarette smoke.

Observations versus risks. Although it is a stimulant with many effects on the body, epidemiological studies generally do not show nicotine exposure to be harmful to health.

Unrealistic operating conditions. Some research employs machines to measure emissions from vapes or HTP, but using conditions that do not replicate how people would actually use the product - e.g. if it was overheated, it would taste terrible.

Over-interpreting animal and cell studies. Human cells in Petri dishes ('in vitro') or tests on animals ('in vivo') do not necessarily respond the same way that the human body would.

Correlation ≠ causation. Observations may show, for example, that research participants who vape also experience a harmful effect. However, while this may be a correlation (or association), too many studies suggest that vaping causes the harmful effect.

Confounding by smoking history. Studies must make the smoking history of participants clear. Most of those who are old enough to vape and experience conditions such as heart disease used to smoke, and it is likely that the smoking caused the ill health.[278]

As well as poor quality science, there is also misleading communication of science.

The results of the vast majority of scientific studies are never communicated to the general public. But if considered newsworthy, studies will be selected by university press offices, written up into a press release, and then issued to journalists – most of whom will not be subject specialists – for them to write up in print or online articles, or report in broadcast media. What qualifies as newsworthy is often issues that are emotive, contentious or draw a lot of political focus. SNP, and in particular vaping, definitely qualify. And journalists receive hundreds of press releases every day. Good news is not as interesting as bad – and headlines have to grab attention.

The misinterpretation of scientific findings is by no means limited to the science on SNP. However, misunderstandings or misrepresentations are particularly frequent with regards to SNP research, especially about vaping. In one example, an article in *The Sun*, one of the UK's most-read tabloid newspapers, was headlined 'HOLY SMOKES: Vaping teens at risk of toxic metal exposure 'linked to brain damage' – worst-offending flavours revealed' (29 April 2024).[249] The first line of the article reads: "VAPING could damage teenagers' developing brains because liquids contain toxic metals, according to research."

The Sun's report was referring to a study published in *Tobacco Control*, 'Biomarkers of metal exposure in adolescent e-cigarette users: correlations with vaping frequency and flavouring.'[250] Experts responded to the study via the UK's Science Media Centre, which aims to support high-quality reporting on science, "particularly on controversial and headline news stories when most confusion and misinformation occurs".[251] One came from a statistician, Professor Kevin McConway:

> "It's interesting that the researchers point out generally that lead, uranium and their compounds are known to cause human health problems, without referring to the levels of lead and uranium actually found in the research participants. This research didn't directly measure any health problems in the participants, only biomarker levels in their urine. More important to me as a statistician, is that this research can't establish that the higher levels of lead and uranium in the urine of participants who said they vaped more often were actually caused by their vaping. It's possible that that was the cause, or at least part of it – but there are several alternative explanations."[282]

On this occasion, *The Sun* article was updated to incorporate Professor McConway's comment, but it appeared late in the article. This more reassuring assessment is unlikely to be the impression that most readers would take away from the report, especially if they simply glanced at the headline, opening lines and brightly coloured infographic showing which flavours were the "worst offenders". And there are many instances when no such counterpoint is even included, leaving readers worried about teenage sons, daughters or grandchildren.

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The role of the WHO and Article 5.3

As the leading global public health agency, the WHO has a central role in reducing death and disease from smoking, and so it is in their interest to promote all possible options in fulfilment of the mission of the FCTC. Likewise, the WHO should be at the forefront of dispelling the many myths about SNP. The organisation has an excellent track record when it comes to addressing what is often dangerous misinformation about HIV/AIDS, vaccines and COVID (with the exception of suggesting that people who vape are more likely to contract the virus).[283,284,285]

The universal right to health, enshrined in the WHO's founding charter, states that "the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being".[286] This includes people who smoke. To ensure its commitment of 'leaving no one behind', the WHO and all public health agencies have a moral duty to present balanced health information, to give people agency over their own health, and the right to make informed choices.

Everyone working in tobacco control and in tobacco harm reduction wants the same outcome: an end to smoking-related death and disease. The differences arise in how best to achieve this. The fear and lack of trust that characterise many people's responses to THR are likely to be particularly acute among those who have spent their whole professional lives viewing the tobacco industry as 'the enemy'. With colleagues and peers, they have been united against a common cause for decades. And for most of the time that the FCTC has been in existence, the more 'ideological' opposition to the industry has been knitted into its implementation through the guidelines to one particular article of the Convention.

As originally formulated, Article 5.3 of the Convention encourages Parties to avoid being influenced by the industry in crafting tobacco control polices, and to be open and transparent

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the Q&A section of the WHO website about e-cigarettes, published in 2020, claims – falsely – that nicotine is harmful to health, vapes are a danger to bystanders, pose a significant risk of lung injury and threaten the brain development of teenagers

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the effect of this type of misinformation – from the world's leading global public health organisation – is to undermine efforts to help people quit smoking

about dealings with the industry.[287] In 2008, five years after the FCTC came into force, 'Guidelines for the implementation of Article 5.3' were published.[288] In the document, the WHO set out guiding principles, the first of which is asserted as a statement of fact:

> "There is a fundamental and irreconcilable conflict between the tobacco industry's interests and public health policy interests."

Operating in line with this principle, nothing that is beneficial to the tobacco industry can ever be beneficial for public health. Not even switching from the production of lethal combustible tobacco products to products that are demonstrably safer.

And so the WHO has been active in its opposition to SNP and THR. This has included the dissemination of mis- and disinformation. Among many examples, one stands out in particular; a Q&A section of the WHO website about e-cigarettes, published in 2020. It claims – falsely – that nicotine is harmful to health, vapes are a danger to bystanders, pose a significant risk of lung injury and threaten the brain development of teenagers. It also states: "E-cigarettes as consumer products have not been proven to be effective for cessation at the population level."[289] This is simply untrue: the statement ignores the gold standard Cochrane Review (to name just one) that says the opposite.[290]

The WHO E-cigarette Q&A drew strong criticism when it was published. Professor Peter Hajek, Director of the Tobacco Dependence Research Unit at Queen Mary University of London, was especially scathing:

> "The WHO has a history of anti-vaping activism that is damaging their reputation. This document is particularly malign. Practically all the factual statements in it are wrong. […] Vaping does not lead young people to smoking – smoking among young people is at [an] all-time low. There is no evidence that vaping increases risk of heart disease or that [it] could have any effect at all on bystanders' health. […] There is clear evidence that e-cigarettes help smokers quit. The authors of this document should take responsibility for using blatant misinformation that is likely to prevent smokers from switching to a much less risky alternative."[291]

As Professor Hajek notes, the effect of this type of misinformation – from the world's leading global public health organisation – is to undermine efforts to help people quit smoking. Persistent misinformation around SNP has prompted uncertainty among legislators about the most appropriate control regime for these products. Despite the overwhelming body of evidence demonstrating their safety relative to smoking, and their huge potential as cessation aids, our research shows that legal purchase of any SNP category is not possible for 1.7 billion people worldwide (see Chapter Four). Whereas combustible cigarettes remain legal to purchase for the entire global adult population.

The implementation of the FCTC could be adapted to incorporate harm reduction; the wording is there in Article 1d), as we have noted in Chapter Four. If the MPOWER monitoring mechanism was broadened to our proposed EMPOWERED model, incorporating 'Engage with affected communities', 'Encourage smokers to switch to SNP' and 'Deliver accurate information about safer alternatives', enforcement interventions would be balanced with a broader public health approach. This would enable adults who use risky tobacco to make informed choices about their health.[292]

The campaign against THR

Another important factor in the WHO's approach to SNP can be found in its funding. As we have explored in previous reports, the WHO's work on tobacco control is largely funded by Bloomberg Philanthropies and, to a lesser extent, the Gates Foundation.[293] Through his philanthropic work, Michael Bloomberg has committed nearly $1 billion to combatting tobacco use worldwide. In recent years, Bloomberg has directed hundreds of millions of dollars to public-facing anti-vaping campaigns. As Kenneth Warner, distinguished former president of the Society for Research on Nicotine and Tobacco said in an interview with Marc Gunther in 2021: "Michael Bloomberg has done great things for public health. But he is way off base on this."[294]

A global network of NGOs, also funded by Bloomberg, is closely allied with the WHO. These organisations are permitted to attend and observe meetings of the FCTC COP. Allied to this network are several medical associations and academic institutions, some of whom also benefit from the same funding sources, who promulgate mis- and disinformation about SNP and THR, through academic journals that appear to have 'taken sides' in the debate.[295]

In the 'Guidelines to the implementation of Article 5.3', Principle 2 states that Parties should be accountable and transparent "when dealing with the tobacco industry" whilst Principle 3 states that Parties should "require the tobacco industry and those working to further its interests to operate and act in a manner that is accountable and transparent".[296] Transparency and accountability are vital in relation to potential corporate influence on policymaking – but it should also extend to the potential influence of philanthropic actors.

The over-interpretation of these principles has ultimately led to the suppression of free speech in the tobacco and nicotine field and about THR. A situation has been created whereby even to advocate for THR is taken as *de facto* support for the tobacco industry and its products. *Ad hominem* attacks are commonplace, on academics, health professionals and consumer advocates, who either have had, or are assumed to have had any interaction with the tobacco industry, for whatever reason, however tangentially and however long ago.

Individuals and representatives from organisations that are publicly pro-THR have been banned from speaking at certain tobacco control conferences, or had invitations abruptly withdrawn after information about their views or activities is quietly shared with conference organisers. Many THR experts are never invited to speak at tobacco control conferences, and those who advocate for THR are banned from attending certain events. Whisper campaigns have led to the abandonment of planned THR events; in February 2023, the 'THR Summit Spain 2023 Congress', saw its host organisation pull out and its cancellation just days before opening, after a media storm of accusations about its content, deemed 'favourable to electronic cigarettes'.[297]

Researchers working in public health and tobacco control have been warned off attending some events by their institutions. People are told that attendance at conferences which host certain THR experts, or industry scientists or representatives, could put their future careers and funding in jeopardy. This stifles the potential for learning and innovation in tobacco control and broader efforts to reduce smoking-related disease and death – and it has a chilling effect on the very research into SNP that the WHO and others insist is needed.

The Tobacco Tactics website is run by the University of Bath's Tobacco Control Research Group with funding from Bloomberg Philanthropies among others.[298] Described as a "knowledge exchange platform", the site's stated purpose is to detail "key issues in tobacco control, as well as focussing on the global tobacco industry and

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those connected to or interacting with it".[299] It offers a searchable database of names and organisations deemed to be connected to or interacting with the tobacco industry – many people associated with the making of this report are 'named and shamed'. The website's 'About us' page ensures that it covers all bases:

> "Being mentioned on Tobacco Tactics does not necessarily mean that the organisation or individual receives funding, monetary or in-kind, from the tobacco industry; instead we attempt to detail the nature of any link to the industry. Conversely, where there is no information on Tobacco Tactics about an organisation or individual, further research or due diligence should still be undertaken before assuming that there is no link to industry or potential conflict of interest."[300]

Bloomberg also funds the work of investigative journalists, such as those at The Bureau of Investigative Journalism (funding through Vital Strategies) and The Examination (funding from Bloomberg Philanthropies).[301,302] Their journalists supply mainstream media outlets with articles that seek to discredit individuals or organisations whose support for THR is determined to be solely as a consequence of alleged or actual interactions with the tobacco industry.

While scrutiny of the tobacco and SNP industry and their actions is both necessary and important, the policing and denial of science, the *ad hominem* attacks, no-platforming and personal smears are not. Early career researchers are either being warned off or are scared off working in THR by the threat that simply being associated with the field could pose to their future prospects. This is not healthy.

Prohibition, illegal markets, fear and lack of trust

As shown earlier in the chapter, policymakers can be influenced in their decision to prohibit SNP or institute heavy restrictions on their use by a range of factors. These may include the encouragement of the WHO FCTC Secretariat and public communications from the WHO more generally. They may also include a focus on domestic matters, perhaps due to fears around youth vaping and the significant negative media and public attention this attracts. But prohibition and heavy restrictions on SNP, as well as the existence of widespread illicit markets and links to crime, all have the effect of raising fears about and lack of trust in SNP and THR even further – and can also lead to other unintended consequences.

As we noted briefly in Chapter Three, there are a variety of ways in which nicotine-containing products can be classed as illegal:

- In some countries, all SNP are illegal, regardless of who has made them or how they have been manufactured.
- In many countries, certain categories of SNP are legal, but products made by reputable manufacturers are smuggled in to avoid paying tax and import duties. These products may be sold more cheaply than those

imported legally, potentially through more informal retail channels, such as on market stalls or by street sellers.

- Counterfeit nicotine-containing products that mimic well-known products, or simply products of unknown branding can be present on any illegal market. This type of product can be unsafe in various ways. They may be poorly manufactured, have low quality or dangerous batteries, contain additives that would not pass safety standards, or contain excessively high nicotine strengths and cannot be referred to as 'safer nicotine products'.

Counterfeit nicotine-containing products are a problem even in countries such as the UK which have a relatively proportionate control regime. The UK Vaping Industry Association (UKVIA) estimates that anything up to 60% of the single-use vapes on the UK market are illegal or counterfeit.[303] In just one month at UK ports in the south of England, 300,000 illegal vapes were seized.[304]

In the USA, where the FDA has only authorised a handful of SNP, the vape market has been flooded with illegal imported products, not necessarily unsafe, but simply cashing in on demand.[305] Meanwhile, observers in Australia have linked the expanding presence of an illegal market in vapes with the government's prohibitionist policies. The country's restrictions on vapes are so strict they almost amount to prohibition, yet Australia has one of the highest youth vaping rates in the world. Criminal gangs control the vape market, with fire-bombings of shops, homicide, extortion and other criminal activity linked to the supply of both illicit tobacco and illegal vapes.[306]

In countries where prohibition is not total, highly restrictive regulations can also have unintended consequences. As shown in Chapter Four, the tendency towards e-liquid flavour bans, which began in the USA, has now reached into other regions such as the European Union. This is a regulatory response driven by the belief that adolescent vaping is substantially driven by a wide range of flavours and the use of eye-catching names. The 2023 UK ASH Briefing, 'Addressing common myths about vaping', makes clear that a wide choice of flavours is not the main reason why young people vape.[307]

Flavour bans often have the effect of a proxy ban on vaping more broadly. Flavours are an essential part of the process that enables people to transition out of smoking, by ridding themselves of the taste of tobacco and finding a flavour of vape liquid that appeals to them.[308,309,310] Nevertheless, in the USA, 375 locations and seven states have banned all flavours, with most also including menthol in the ban. Only tobacco flavour is permitted.

Researchers from the Yale University School of Health analysed data from all the locations that had banned flavours to assess the impact. The headline finding was that flavour restrictions caused a fall in vape sales and a rise in cigarette sales, which the authors noted aligned "with 16 out of 18 other studies" assessing cigarette use following adoptions of a range of policies making SNP harder to access, more expensive or less appealing.[311]

In 2023, new restrictions were introduced in New Zealand on flavour descriptions. Labels can only describe the actual flavour of the liquid, using one or two names from a list that has nearly 60 words on it. Both flavour names and descriptors are allowed, meaning that, for example, tropical watermelon or sweet custard would be permitted.[312]

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THR consumers are entitled to choice when it comes to flavours, but there may be a case for expediency as in the example of New Zealand.

So while fear and lack of trust feeds into policymakers' decisions to effect bans, bans and illegality further drive fear and lack of trust in SNP and THR among consumers. Regular consumers will know their trusted retail sources and products. But the public health imperative is to encourage current adult smokers to switch. If somebody who smokes is looking to switch, how are they to assess what products to buy and from where, when the headlines on SNP and THR are almost always bad?

Fears about and lack of trust in SNP among people who smoke

As we have argued throughout this chapter, the people who are most likely to experience negative consequences from the fear and lack of trust around SNP are those who smoke. And as we have also shown, it is not at all surprising that there is confusion about the relative safety of SNP compared to combustible cigarettes.

Studies have confirmed that repeated exposure to negative news coverage about vaping increased beliefs about harms and reduced beliefs about benefits.[313,314] A randomised controlled experiment among US adults found that viewing negative headlines about vapes "led to stronger beliefs about harms and weaker beliefs about benefits, compared with positive headlines", while "viewing conflicting headlines appeared to have a similar effect as negative headlines in lowering never users' beliefs about e-cigarette benefits, compared with positive headlines".[315]

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evidence from both HIC and LMIC suggests that access to SNP can reduce smoking-related mortality

Perhaps unusually, the UK population not only sees negative stories in the media about vaping, but also receives advice from the National Health Service about using vaping devices to quit smoking, and news of the rollout of the government's major 'Swap to Stop' programme, through which a million free vaping starter kits will be given to people to help them quit smoking.[316,317,318] But recent research from University College London has found that harm perceptions about vaping had worsened significantly over the last decade among adults in England:

> "In 2014, the most common perception was that e-cigarettes were less harmful than cigarettes. However, by June 2023, the proportion who thought e-cigarettes were less harmful had decreased by 40% and the proportion who thought they were more harmful had more than doubled. […]. As a result, only a minority (26.7%) of adults who smoke now think e-cigarettes are less harmful than cigarettes, including only 19.0% of smokers who do not vape, who would most benefit from switching to a reduced harm product."[319]

Thus fear and uncertainty about SNP are dominating the attitude of people who smoke even in the UK, where, as we showed in Chapter Three and demonstrate in our UK country profile later in this report, vaping for smoking cessation is a success story.

Evidence from both HIC and LMIC suggests that access to SNP can reduce smoking-related mortality. The scale of this reduction will depend on how quickly the transition from combustible tobacco to safer alternatives takes place. The divide has to be bridged between tobacco harm reduction, public health and 'traditional' tobacco control. Animosities must be set aside and fear redirected – as the biggest concern should be what happens if THR is not facilitated.

Listening to affected communities – people who use nicotine

Our latest estimations show that the global number of vapers increased to 114 million in 2023 (see Chapter Three). Previous estimates have put the number of heated tobacco product users at 20 million and users of snus and other smokeless products at 10 million – although given market changes, it is likely that these numbers have also increased.

Most consumers use SNP because their chosen product or products have helped them reduce their cigarette use or quit and maintain smoking cessation. In countries where legal SNP access is denied, they often have to purchase illegal and potentially dangerous counterfeit products. In response to the challenges they face, groups of consumers have come together to advocate for and counter the opposition to THR in many countries. Like those who drove the early uptake and development of vaping, today's consumer advocates are also unusual; it is rare to find groups advocating for access to a consumer product on health grounds. Many people are motivated to join a consumer advocacy campaign because they fear that losing access to their chosen product or products may lead them smoke again.

As we note in our GSTHR Briefing Paper on consumer advocacy organisations:

> "Their approach and activities depend on the situation in their country and region, but they are all working to raise awareness of tobacco harm reduction. If regulatory proposals threaten to restrict access to products, it is often consumer advocates who step in to voice opposition, and to campaign for appropriate regulation."[320]

GSTHR research found that the majority of these groups have little or no funding and are run by volunteers.[321] Yet they communicate with politicians and policymakers, respond to official consultations, establish websites and social media accounts and set up communication channels with colleagues around the world. National organisations will often group with others to form more resilient regional associations.

The voice of the consumer is absent, however, from most policymaking on tobacco and nicotine at a national level, and especially at the international level. This is despite the fact that consumers are directly impacted by the regulation, control and prohibition of SNP. Consumer advocates are denied access to FCTC COP meetings, are subject to many other discriminations, and are frequently accused of being industry 'shills' simply for campaigning for product access.

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Barred from entry to the FCTC COP, there is no mechanism for people who use nicotine to share their experiences with international tobacco control policymakers. No consumer group has ever been invited to speak at an FCTC COP meeting. This is very different to the COP meetings for the Framework Convention on Climate Change, where a broad spectrum of civil society groups is invited to observe and participate.[322] It is also very different to how the UN system treats other affected populations.

This failure to take account of the experience of people who used to smoke, or indeed still do, is replicated in many other settings. Yet the principle of 'nothing about us without us' is well established in many countries, throughout many sectors of health and social policy. It is understood that individuals and populations affected by particular issues have their own expertise, which when taken into consideration during the policymaking process, can help deliver positive outcomes for all.

The WHO itself has recognised the value of this approach, and in April 2021, it produced a report, *Nothing for us, without us*, highlighting the opportunities and potential value of engaging with people to tackle non-communicable diseases (NCDs).[323] The report overview states: "People living with NCDs are experts in their own right and if meaningfully engaged can be key partners and drivers in the co-creation, implementation and evaluation of NCD policies, programs, and services."[324]

It is a matter of huge regret that this admirable ambition is yet to influence the WHO's approach to dealing with one of the greatest contributors to non-communicable disease, premature death and morbidity.

Chapter Six: Conclusions

More than one billion people are still smoking, leading to over eight million deaths a year. A billion people could die from smoking-related causes by the end of this century. Smoking-related diseases top the list of preventable global deaths arising from non-communicable diseases. And around two-thirds of the impact of smoking occurs in low- and middle-income countries. In addition to the human cost, the economic costs of smoking-related disease are also staggering, estimated at $2 trillion per annum.

The efforts of tobacco control, focussed on taxation and restrictions, have helped achieve reductions in smoking prevalence in some countries, particularly higher income nations. But even here, vulnerable populations are being left behind. Additional strategies are needed to drive down smoking prevalence, save lives and reduce ill health, as rapidly as possible.

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A change of approach

Tobacco harm reduction using safer nicotine products has the potential to bring about the most dramatic global public health revolution in decades. If fully realised, it could achieve swift and significant reductions in the stark figures of death and disease caused by smoking.

One essential scientific truth is central to the approach: that the primary source of the many health problems associated with the combustible cigarette lie in the act of inhaling the smoke released when it burns. Remove that risk and we are left with the possibility of nicotine consumption being relatively safe. The development of a new range of combustion-free SNP – vapes, heated tobacco products and nicotine pouches – now offer people the opportunity to consume nicotine in a fundamentally safer way. These newer smoke-free products sit alongside longer-established products like snus, American smokeless and nicotine replacement therapy, significantly expanding the range of options.

Two decades on: 2004 to 2024

Although the first commercially viable e-cigarette was introduced in China in 2004, it took a decade before there was significant consumer uptake. Over the past two decades, other new and more established forms of SNP have proved increasingly popular with people who use nicotine. This has created challenges for various sectors, including public health, particularly tobacco control, for policymakers and regulators, and for the tobacco industry. The issue of how to identify and track the uptake of SNP – and so the progress of harm reduction – has become apparent.

An obvious starting point is the scientific evidence. The first review of e-cigarettes published by Public Health England in 2015 concluded that compared to smoking, e-cigarettes were relatively safe. This key message has remained unchanged in close to a decade. Subsequent UK updates and reviews from other medical and public health bodies around the world have supported that conclusion. There is also now a robust and growing body of evidence that the use of nicotine vapes provide an effective exit ramp from smoking, and in so doing, provide an opportunity for improved health.

Similarly favourable scientific assessments have been expressed in respect of oral products such as snus – which brings with it a wealth of epidemiological evidence about its role in reduced smoking-related morbidity and mortality from Scandinavia. And while there have been more cautious assessments in relation to heated tobacco products, these have also been shown to fall significantly lower on the spectrum of risk compared to cigarettes and other combustible tobacco products.

Product development and market growth

The relationship between product development and consumers has been an important factor in the growth of SNP use. The new nicotine industries developed a range of products consumers were willing to use, with elements of the established tobacco sector subsequently playing catch up. There has been continued growth in the range of products, with various types of nicotine pouches, snus, and a wide range of vapes and heated tobacco products now available in some markets.

Many people who were smoking have been motivated to switch to these products, on the understanding that they can continue consuming nicotine but at much lower risk to their health. Trying to determine the actual numbers of people who use SNP instead of smoking is challenging, due to the limited number of public health surveys looking at this issue, and the lack of publicly available market data. However, our research suggests that the global number of vapers has increased from 58 million in 2018 to reach an estimated 114 million in 2023. While regulatory responses to SNP may limit consumer choice in many countries, the evidence is clear: millions are substituting SNP for the cigarette.

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The market data that are publicly available provide another valuable indicator – particularly in countries where a rise in SNP sales has been matched by a downturn in the cigarette market. Japan, where the introduction of HTP has seen cigarette sales fall over 50% in five years, provides a striking example. No legislative or public health intervention has ever delivered such a dramatic drop in cigarette sales over such a brief period.

Several countries, including New Zealand, Norway and the UK, have witnessed a sharp drop in smoking prevalence at the same time as widespread uptake of one or more categories of SNP. Data now support the theory that, when consumers are given accurate information about the relative safety of SNP and access to affordable and suitable products, significant reductions in smoking rates will occur.

The challenges of regulation

Before the advent of SNP, the role of tobacco regulators and their legislators was relatively straightforward. Cigarettes come in a simple form. They are easy to classify and therefore regulate. The same is largely true for other combustible tobaccos. Things became more complicated when new products emerged that did not burn tobacco, but still contained nicotine.

The mistaken belief that nicotine is among the most dangerous elements in combustible tobacco persists in many sectors. It continues to affect decisions made by regulators about SNP. They also face the challenges posed by understanding any new product category. Many are simply unsure what to do.

Some major organisations, notably the WHO, have adopted a highly sceptical and prohibitionist approach. Despite the increasing weight of evidence to support THR, the WHO continues to deny any potential health benefits of

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switching from cigarettes to SNP. The organisation and its allies have sought to encourage countries to introduce regulatory frameworks at least as restrictive as those for cigarettes, and in some cases more so.

In several countries, the result is that safer products have been banned while cigarettes remain universally available. At the 2024 Conference of the Parties to the Framework Convention on Tobacco Control in Panama, however, some Parties signalled that they are uncomfortable with the current position on tobacco harm reduction.

Tobacco policy is set domestically in most countries, except in the European Union, in which countries must adopt a minimum regulatory framework. Every country has its own economic, political, social and cultural factors that help determine its individual tobacco control policies. The diversity of the challenges faced and approaches taken are revealed by the national and regional profiles within this report.

Contrasts and contradictions

In Eastern Europe and Central Asia, while smoking rates are high, there is also widespread use of an estimated fifty different varieties of the oral product nasvay. Often of unknown provenance and with unquantified health risks, nasvay use makes up a significant proportion of overall tobacco consumption in the region. In Latin America, meanwhile, there are some striking contrasts. Despite having the highest absolute number of smoking-related deaths and associated costs in the region, the government of Brazil does not appear ready to relax restrictions on vapes, having banned them way back in 2009. By contrast, Chile, which has the highest smoking prevalence and largest proportion of smoking-related deaths in Latin America, has recently introduced a comprehensive package of measures that have been specifically designed to encourage people who smoke to switch to SNP.

The four country profiles presented all provide evidence of the significant progress that can be made when people who smoke are given the opportunity to substitute cigarettes with safer products. This represents a major public health win, but notably one that has required minimal financial investment from the state.

Each of the country profiles shows a different pathway to achieving success in reducing smoking prevalence. The rise in the use of HTP in Japan had little to do with the government, apart from the fact that vapes were effectively banned under existing legislation. A non-interventionist tobacco policy allowed for the advertising of HTP as safer than smoking, and consumers responded. Snus has been available for over two hundred years in Norway, but had been overtaken by smoking in terms of popularity. A shift back towards snus use followed improvements in manufacturing techniques and evidence of its relative low risk compared to cigarettes.

Meanwhile the UK's generally supportive, public health-oriented SNP policies developed after a long history of harm reduction in drugs and the prevention of HIV/AIDS. The New Zealand government adopted a similar approach, explicitly supporting a switch from cigarettes to vapes, which has contributed to a significant reduction in smoking prevalence.

Inevitably, SNP have thrown up numerous challenges for regulators. A number of countries initially banned them but have since lifted some restrictions. Others have introduced new controls. Most, however, have chosen to assimilate regulations about these products into existing tobacco laws, which over time have become aligned with the recommendations of the Framework Convention on Tobacco Control.

Progress hindered by fear, lack of trust and misinformation

Concern about young people's use of SNP, particularly vaping, has prompted regulatory action in some countries – whether this has been supported by evidence or not. Adolescent use of vapes has also been linked in many instances to the availability of flavours, prompting some regulators to introduce flavour bans of varying specificities. The narrative on young people and flavours ignores the evidence around the important role flavours play for people quitting smoking.

The rise of cheap single-use vapes has also amplified concerns about use by young people and the environmental impact of these products, with a number of bans already in place and other countries set to follow suit. There is no doubt that these products are both affordable and easy to use. What is often overlooked, however, is that these features make them particularly well-suited to the most hard-to-reach cigarette users seeking an exit from smoking.

Various financial and economic obstacles to the uptake of SNP were to be expected. The arrival of innovative nicotine-containing products onto the market has constituted the most significant disruption to the global tobacco industry since the invention of the cigarette rolling machine. The agricultural value and export value of tobacco, as well as the domestic tobacco industry, are sizeable in some countries – competition from SNP may not be welcome. And most multinational tobacco companies have been reluctant to invest substantially in SNP, both because of the uncertain trajectories of regulatory control, and an obligation to maximise profits for investors. Combustible cigarettes remain hugely profitable for their manufacturers.

Perhaps less predictable has been the resistance of many organisations to accept the potential offered by SNP. Where research and critical analysis were needed, an infodemic of myths, misinformation and disinformation has emerged. This has been disseminated by often well-intentioned international and national NGOs, as well as some medical, academic and public health organisations. They are frequently funded by generous but misguided philanthropy from sources hostile to THR using SNP.

Some in the media have been happy to amplify more lurid stories and concerns about safer products, which often relate to the lack of trust in the legacy tobacco industry

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and its motives. Much of the professional discourse and debate around THR has now become toxic. Unlike in many other areas of public health, the views and experiences of people who used to smoke and are now using SNP are rarely sought or heard. Sometimes they are suppressed. The end result is fear and uncertainty about THR, among frontline health professionals, policymakers and – worst of all – among people who smoke. People are continuing to smoke because they have been led to believe that SNP are as dangerous as or even worse than cigarettes.

Tobacco harm reduction: into the future

Despite all the challenges, however, there are many reasons for optimism as we approach the end of this century's first quarter. The use of SNP is increasing. We have clear evidence that, where circumstances allow, people are keen to switch from smoking to safer forms of nicotine use. Our research shows that over two-thirds of the world's population – in nearly 130 countries – can legally access at least one form of SNP. The consumer base is growing, alongside evidence of the public health benefits of the substitution of SNP for smoking. These products are here to stay. And the voice of consumer advocates whose lives they have improved is getting louder.

So much more can be achieved as we look to the next twenty-five years and beyond, if the potential of harm reduction is seized. Many are already benefiting from having switched from smoking to SNP – often despite opposition or indifference from their governments and mixed messaging from health bodies. Statistical modelling demonstrates that in the coming decades, millions of people could live healthier, longer lives if SNP are substituted for smoking. If fully realised, tobacco harm reduction has the potential to rapidly reduce the global number of smokers. This would deliver one of the greatest public health gains of the 21st century.

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GLOBAL STATE OF TOBACCO HARM REDUCTION 2024

A SITUATION REPORT

Section Two

LATIN AMERICA

2

Report overview

The Global State of Tobacco Harm Reduction 2024: A situation report is a multi-component publication, grouped into two parts, ***Global perspectives*** and ***Regional and national insights.*** The extent to which SNP are replacing and substituting for combustible and risky oral tobacco products is the unifying theme.

Global perspectives uses the latest evidence and new data projections to report on the current global THR situation and its potential to rapidly reduce the burden of disease and mortality associated with risky tobacco use. Measuring changes in SNP uptake, policy and regulation, it considers how these factors interrelate to support or undermine progress.

Regional and national insights considers the status of tobacco use and THR at the regional or national level. The document you are about to read focuses on **Latin America**; an equivalent report for **Eastern Europe and Central Asia** is available. Four countries that have enabled THR to drive down smoking rates – **Aotearoa New Zealand, Japan, Norway** and the **UK** – are also profiled.

GLOBAL STATE OF TOBACCO HARM REDUCTION 2024

A SITUATION REPORT

Section Two

Latin America

Section Two
Latin America

Lead author: Tomasz Jerzyński

Introduction

For this chapter, we move our focus to explore the state of THR in Latin America. This diverse group of countries continues to be negatively impacted by tobacco use; while national smoking rates may not be as elevated as in some regions, the large populations of some Latin American nations means that the number of people affected by smoking-related disease can be a significant drain on healthcare systems and economies. SNP are available for consumers to purchase in most Latin American countries, though often from unregulated sources. The use of different SNP varies from country to country, along with levels of recognition of the products' roles in supporting smoking cessation, as well as engagement and activity from THR consumer advocates. Yet hope for the future of THR in Latin America is constantly under threat from powerful outside influences seeking to mould responses to smoking and the emergence of SNP to fit with expectations and values set elsewhere.

For the purposes of this report, 'Latin America' means countries in North, Central and South America where Spanish or Portuguese are the most commonly spoken languages today.[i] Our report covers 17 mainland countries: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela. Collectively, they are home to more than 616 million people.

nearly 70 million smokers in the region are at risk of tobacco-related health issues

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globally, the region ranks second in terms of female tobacco consumption

Despite recent economic growth, the region faces significant inequality, with the richest 10% of the population holding a disproportionately large share of wealth.[1] Tobacco consumption has decreased in recent years in Latin America, with smoking prevalence falling from 26% to 15% between 2000 and 2020. However, challenges persist, with nearly 70 million smokers in the region at risk of tobacco-related health issues. Men have higher smoking rates compared to women, although the region ranks second in terms of female tobacco consumption globally. Chile, Uruguay, and Argentina have the highest regional smoking rates among women. Brazil has the lowest rate of youth tobacco consumption.[2,3]

As well as being consumers of tobacco, several Latin American countries are major tobacco producers. Brazil produces the most, followed by Argentina, Colombia, and others; the area of land dedicated to tobacco farming has, however, decreased over recent years.

[i] This therefore excludes Haiti and the French Caribbean, the Anglophone Caribbean (Jamaica, Trinidad), mainland English-speaking countries (Belize, Guyana) and the Dutch-speaking countries (Surinam, Aruba and the Netherland Antilles).

The combustible tobacco market in Latin America is dominated by two of the major transnational tobacco companies: British American Tobacco (BAT) and Philip Morris International (PMI); BAT controlled 51.4% of the market as of 2015. Marlboro and Pall Mall are among the most popular cigarette brands in the region.[4,5]

Table 1 At a glance: Latin American countries

Country	Population	Area	Language	Life expectancy at birth for 2021	Mortality rate (2023)	GDP (nominal) (2019, millions USD)	GDP (PPP) (2019, millions USD)
Argentina	6,621,847	2,780,400	Spanish	75.39	7.28	445,469	903,542
Bolivia	12,186,079	1,098,581	Spanish, Quechua, Aymara	63.63	4.33	42,401	94,392
Brazil	218,689,757	8,514,877	Portuguese	72.75	6.90	1,847,020	3,456,357
Chile	18,549,457	756,102	Spanish	78.94	6.58	294,237	502,846
Colombia	49,336,454	1,141,748	Spanish	72.83	7.84	327,895	783,002
Costa Rica	5,256,612	51,100	Spanish	77.02	4.97	61,021	91,611
Ecuador	17,483,326	256,369	Spanish	73.67	5.18	107,914	202,773
El Salvador	6,602,370	21,041	Spanish	70.75	5.92	26,871	55,731
Guatemala	17,980,803	108,889	Spanish 60%, Amerindian languages 40%	69.24	4.89	81,318	153,322
Honduras	9,571,352	112,492	Spanish	70.12	4.69	24,449	51,757
Mexico	129,875,529	1,964,375	Spanish	70.21	7.07	1,274,175	2,627,851
Nicaragua	6,359,689	130,373	Spanish	73.84	5.19	12,528	34,531
Panama	4,404,108	75,417	Spanish	76.22	5.88	68,536	113,156
Paraguay	7,439,863	406,752	Spanish, Guarani	70.26	4.90	40,714	97,163
Peru	32,440,172	1,285,216	Spanish, Quechua	72.38	11.04	228,989	478,303
Uruguay	3,416,264	176,215	Spanish	75.44	9.12	59,918	82,969
Venezuela	30,518,260	912,050	Spanish and various indigenous languages	70.55	6.55	70,140	–

Source: World Bank[6], PEW Research Center[7,8]

Tobacco use

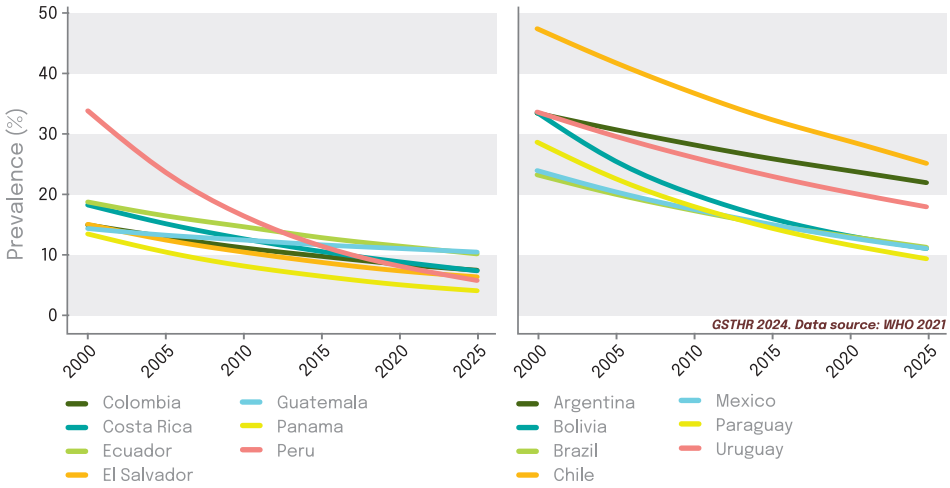
The average national smoking prevalence in Latin America is higher than in the USA, Canada, Northern European countries, Australia and New Zealand, but lower than countries in Asia and the Middle East. It is at a similar or slightly lower level than smoking prevalence across the European Union.

While the level of smoking prevalence in Latin America may appear to show a stable downward trend, data are frequently either inconsistent or non-existent. A large number of Latin American countries – Argentina, Bolivia, Chile, Colombia, Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua, Paraguay and Venezuela – simply do not monitor public health measures related to smoking. This can be the case even when a country has specialist research agencies that are actively monitoring other aspects of public health. The majority of the 11 countries mentioned above choose instead to use World Health Organization (WHO) estimates of smoking prevalence. It is fair to say that these estimations are liable to be optimistic; some might go so far as to say that they present wishful thinking.

Since 2000, the WHO has undertaken analysis of global trends in adult tobacco use and is set to continue doing so until at least 2025, with the aim of tracking progress on reducing tobacco consumption. The Global Tobacco Surveillance System assumptions indicate that the goal for the Americas is to reduce smoking prevalence rates to 14.9% by 2025. Projections suggest the target reduction is likely to be surpassed, with regional prevalence falling to around 14.3%.

However, these projections are based on the assumption that enacting tobacco control measures always has a direct and predictable impact on tobacco consumption levels. This assumption is unverifiable, and is the weakest point of these projected estimations. According to the WHO, many countries in the Latin American region must bolster their tobacco control programmes to meet WHO FCTC provisions and regional action plans. Strengthening surveillance systems is crucial, as only a few countries have implemented comprehensive tobacco control surveillance, hindering the systematic monitoring and forecasting of tobacco use prevalence.[9]

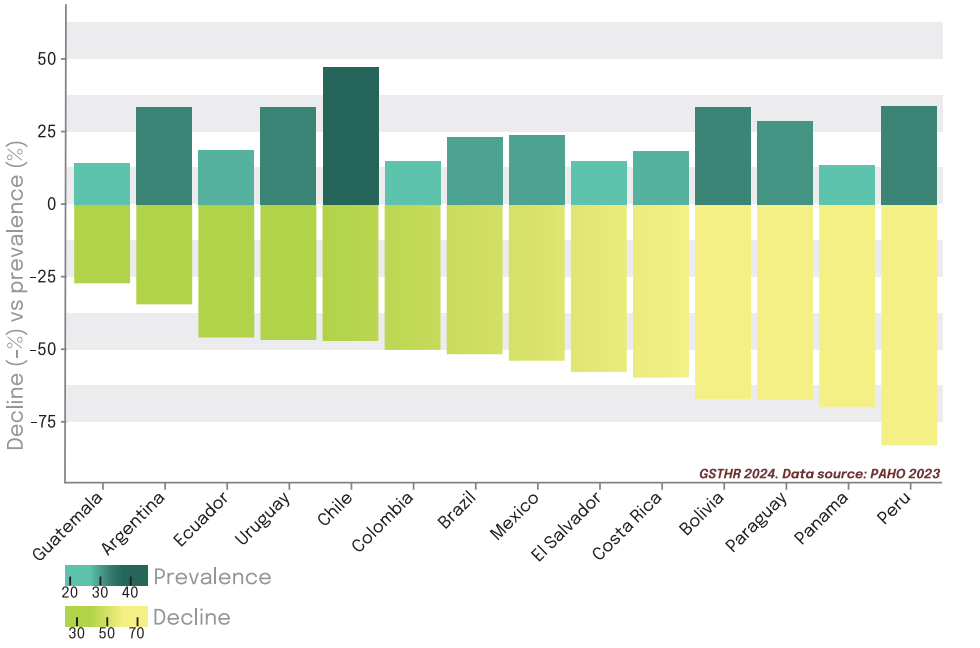
Trends in prevalence of tobacco use in Latin America, WHO estimations



Source: WHO 2021.[10] Current tobacco use prevalence trends among people aged 15 years and older, 2000–2025, not age-standardized

According to WHO data, prevalence of tobacco use has been decreasing consistently across several Latin American countries from 2000 to 2025. Overall, these trends highlight a significant and widespread reduction in tobacco use across these nations over the 25-year span.

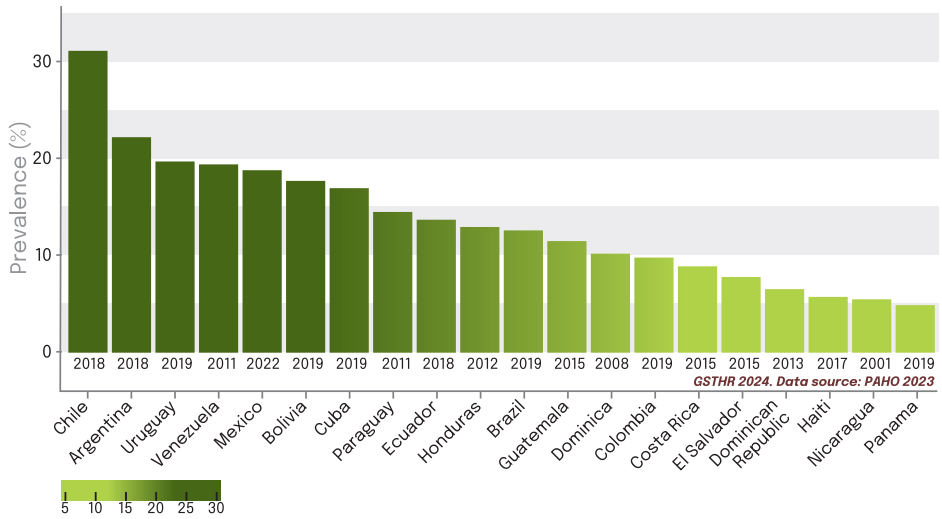
Percentage decline in tobacco use between 2000 and 2025 vs prevalenceof tobacco use at baseline in 2000 in Latin American countries



Source: WHO 2021. Current tobacco use prevalence trends among people aged 15 years and older, 2000–2025, not age-standardized

These findings are based on the WHO Global Report on the Trends in Prevalence of Tobacco Use 2000–2025, 4th edition, cited on pages 17–18 of the Report on Tobacco Control for the Region of the Americas 2022.[11,12] Our research suggests, however, that these findings should be interpreted with caution, as more recent data are available for several of the countries listed.

Current tobacco smoking among adults in Latin America, the most current surveys



Source: Current smoking among adults, WHO report on the global tobacco epidemic, 2021: addressing new and emerging products. 8th edition[13] presented Report on Tobacco Control for the Region of the Americas 2022. Pan American Health Organization.[14]

Brazil, for example, has a number of different sources that provide data on smoking. Since 1989, the National Cancer Institute (Instituto Nacional de Câncer, INCA) has regularly carried out household surveys. In 1989, it reported that 34.8% of those over the age of 18 smoked. A significant decrease was observed in 2003, when the percentage was 22.4%; by 2013, it had fallen again, with 14.7% of Brazilian adults reporting that they smoked. Between 1998 and 2010, the percentage of smokers in Brazil fell by 46%.[15]

Since 2006, smoking rates in Brazil have also been estimated using the Annual Survey on Risk Factors and Protective Factors Against Chronic Diseases (VIGITEL), conducted by phone with adults in the 26 Brazilian state capitals and the Federal District. According to VIGITEL's 2021 data, the percentage of smokers aged 18 or older in Brazil is lower still, at 9.1%, with a rate among men of 11.8% and among women of 6.7%. This data contrasts with WHO estimates for Brazil, which suggest a smoking prevalence of 13.4% in 2018 and 13.1% in 2020 in Brazil's adult population.[16]

VIGITEL 2023 reports that the percentage of Brazilian adults who were exposed to tobacco smoke in the home in 2020 was 7.1%, or about 5.3 million people.[17] The report also finds that 8.5% of Brazilian adults, around 6.4 million people, were exposed to tobacco smoke in the workplace in 2020.

In contrast to the multiple data sources in Brazil, the only available source of information on the prevalence of tobacco use, smoking and the use of nicotine vaping devices in Costa Rica is the Global Adult Tobacco Survey (GATS), most recently carried out in 2015 and 2022. Prevalence of current tobacco use and current smoking decreased slightly between the two surveys, but at a level that was not statistically significant. Tobacco use fell from 9.1% (2015) to 8.7% (2022) and smoking from 8.9% (2015) to 8.5% (2022). Researchers did observe an increase in the average age that uptake of daily smoking began. Respondents among the 20–34 age group reported smoking daily from the age of 16.1 years in the 2015 survey; by 2022, this had increased to 18.0 years.[18]

smoking prevalence in Latin America may appear to show a stable downward trend, though data are frequently inconsistent or non-existent

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8.52% of the population smoked daily in Mexico in 2022

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the average masks a significant gender gap, as 10% of Mexican women, but almost 30% of Mexican men, said they currently smoked

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the highest levels of current smoking at almost 22% were found in the largest cities in Mexico

In Mexico, monitoring is well developed through the ENSANUT study.[19] ENSANUT is a national health and nutrition survey which has been conducted for more than 25 years by the Mexican Ministry of Health. The programme provides reliable data and insights into population health conditions and trends, as well as the use and perception of health services.

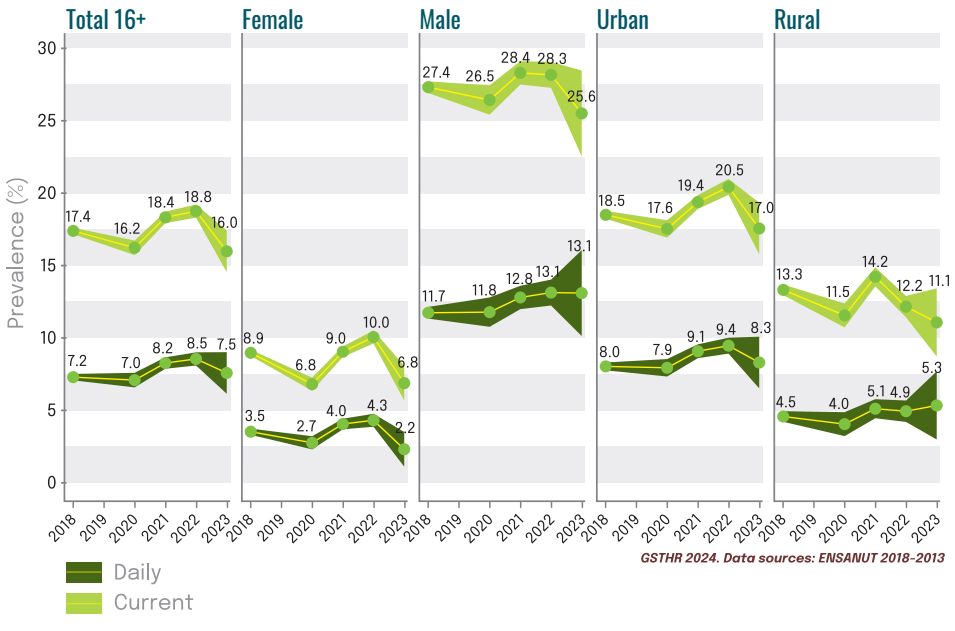
According to ENSANUT data, 8.52% of the population smoked daily in Mexico in 2022. However, this national average masks a high differential between the sexes; 4.5% of women smoked daily compared to 13.3% of men. According to the study, there were no daily smokers among adolescents under 15 years of age, and among those aged 15-16 years, the rate was less than half a per cent.

The data suggest that the daily smoking rate then steadily increased to more than 10% among those aged 25 years, remaining roughly the same through all age groups up to 60. Among the over 60s, the rate fell back, dropping to less than 6% among the oldest group surveyed. The highest levels of daily smoking were found in the largest cities, where the percentage was over 10%, and the lowest in rural areas, where the percentage was less than 5%.

The picture was similar for current smokers – that is, people who reported that they smoked, but not every day. In 2022, almost 19% of the Mexican adult population reported they were current smokers. Again, this average masks a significant gender gap, as 10% of women, but almost 30% of men, said they currently smoked. As for adolescents, among those aged 10 to 14 the study registered only a small number of current smokers, about 0.3%. Among those aged 15-16, the rate was less than 2.5%. It then steadily increased, to almost 14% among 17-19 year olds and over 27% among 25-29 year olds, before decreasing again, down to 8% in the oldest age group.

This phenomenon of late smoking initiation distinguishes Mexico from, for example, countries in the European Union or the United States. It is also important to highlight the large difference between current and daily smokers among young adults. This may be an indicator of a distinctive Mexican smoking pattern. The highest levels of current smoking were found in the largest cities, where the percentage of current smokers was almost 22%, and the lowest in rural areas, where the percentage was over 12%.

Prevalence of tobacco smoking in Mexico 2018–2023



Source: Author's calculations based on the Encuesta Nacional de Salud y Nutrición (ENSANUT) dataset.[20]

Prevalence of tobacco smoking in Mexico among persons aged 10 and over

Source: Author's calculations based on the Encuesta Nacional de Salud y Nutrición (ENSANUT) dataset.[21]

In Peru, data come from the CRONICAS Cohort Study, a population-based longitudinal study in four low-resource Peruvian settings, which began in 2010 with a baseline cohort of 2,978 adults.[22] In 2017, the study found that 3.3% of Peruvians smoked daily, and 8.9% classed themselves as occasional smokers.

Chile and Colombia have the poorest knowledge base on the matter of smoking prevalence in the region. There are no official statistics on tobacco use in these two countries. The only available data are WHO estimations, which are also a base for World Bank reports.[23] The WHO estimates that the prevalence of smoking in Chile was 44.7% in 2018 and 28.9% in 2020.[24] The World Bank has published slightly different figures: 29.9% in 2018 and 29.2% in 2020.[25] Prevalence of current smoking in 2018 in Colombia was estimated to be 7.9% and went up slightly to 8.5% in 2020.[26,27]

in 2017, 3.3% of Peruvians smoked daily, and 8.9% classed themselves as occasional smokers

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there are no official statistics on tobacco use in Chile and Colombia

The burden of tobacco use

Chile has the highest smoking prevalence and the largest proportion of smoking-related deaths among the Latin American countries, with significant direct medical costs. As the most populous country in the region, Brazil has the highest absolute number of smoking-related deaths and costs, followed by Mexico. Chronic obstructive pulmonary disease (COPD) accounts for the highest proportion of smoking-related deaths across all the Latin American countries, with substantial associated costs. Healthcare expenditure attributable to smoking represents a significant portion of the health budgets and gross domestic product of the countries studied, with tobacco tax revenues covering only a fraction of these amounts.

Table 2 **Annual burden of mortality, disease incidence, and direct medical costs attributable to tobacco by country (2015)**

Country	Total deaths	Deaths attributable to tobacco	Deaths attributable to tobacco as a proportion of total deaths	Total disease events	Total direct medical cost, millions $	Total healthy years of life lost	Proportion that is attributable to premature mortality
Argentina	359196	48723	14	224007	3817	1072979	73
Bolivia	55274	4474	8	27867	249	113736	72
Brazil	1240068	156217	13	1103421	11830	4203389	72
Chile	107545	19731	18	111526	1901	495988	67
Colombia	198738	32088	16	221811	1708	789587	65
Costa Rica	18706	1747	9	13718	241	44278	68
Ecuador	57999	7798	13	51280	476	204686	68
Honduras	19457	1526	8	9919	56	39034	67
Mexico	613123	49189	8	308840	4767	1237488	70
Paraguay	27410	3354	12	22360	301	88473	67
Peru	130930	15715	12	95879	796	380749	71
Uruguay	32475	4811	15	20165	800	104015	73
Total	2860921	345373	12	2210720	26946	8774402	70

Source: Pichon-Riviere et al. The health and economic burden of smoking in 12 Latin American countries and the potential effect of increasing tobacco taxes: An economic modelling study.[28]

Chile has the highest smoking prevalence and the largest proportion of smoking-related deaths in Latin America

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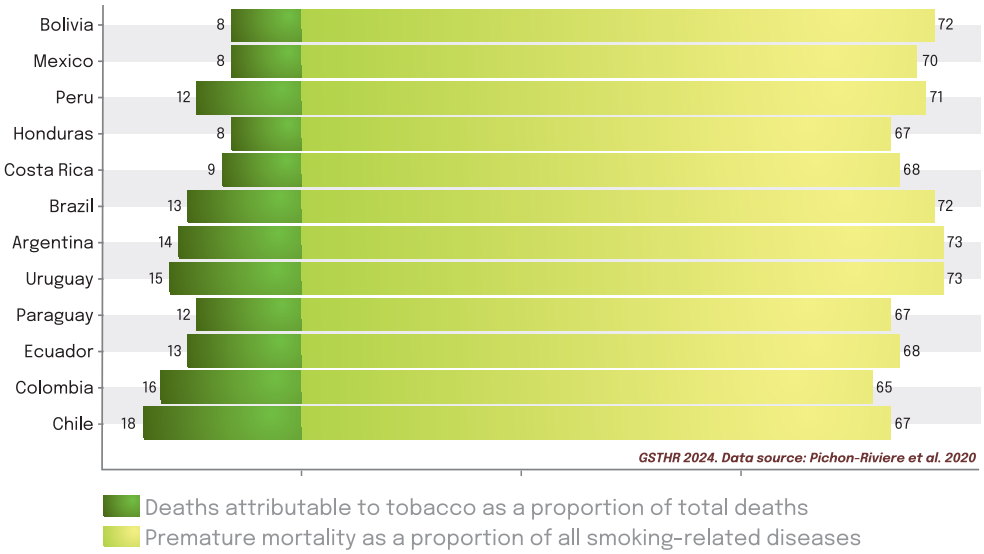
Brazil has the highest absolute number of smoking-related deaths and costs in the region

A simulation designed by Pichon-Riviere et al suggests that a 50% increase in cigarette prices through taxes could lead to substantial health and economic benefits over the next decade, including averted deaths and disease events, gained healthy life years, reduced healthcare costs, and increased tax revenues. The extent of the health and economic benefits from price increases depends on various factors, including smoking prevalence, current tax levels, demand elasticity, and healthcare costs, with different countries experiencing different levels of impact.

The latest Global Burden of Disease data show that, despite the optimistic downward trends in smoking prevalence shown by the WHO since the 1990s, no direct correspondence can yet be seen to reductions in smoking-related mortality.[29] While the introduction of a series of tobacco regulations in Latin America in the second half of the 20th century seemingly resulted in a significant decline in smoking prevalence, it has not yet had a direct impact on smoking-related mortality. The proportion of tobacco-related deaths among all deaths was only declining in half of the Latin

Americancountries by 2020. In Latin America, smoking-related mortality has shown varied trends from 1990 to 2019 across different countries, as shown in the charts below.

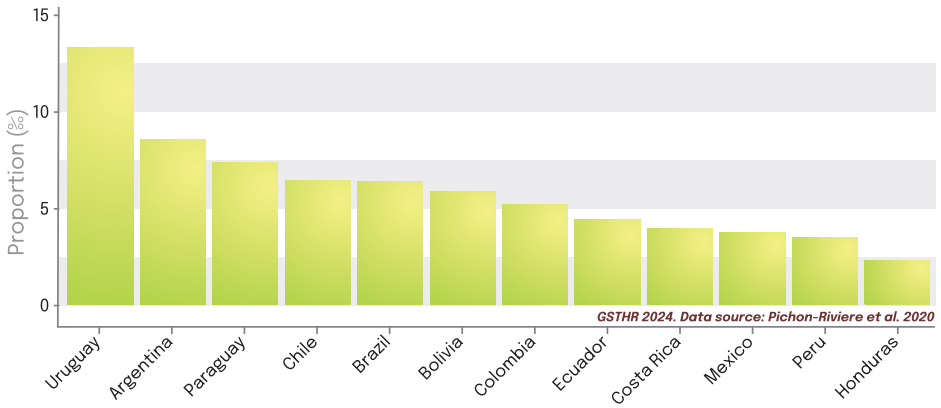
Social cost of smoking in Latin America



Source: Pichon-Riviere et al. The health and economic burden of smoking in 12 Latin American countries and the potential effect of increasing tobacco taxes: An economic modelling study.[30]

Economic cost of smoking in Latin America

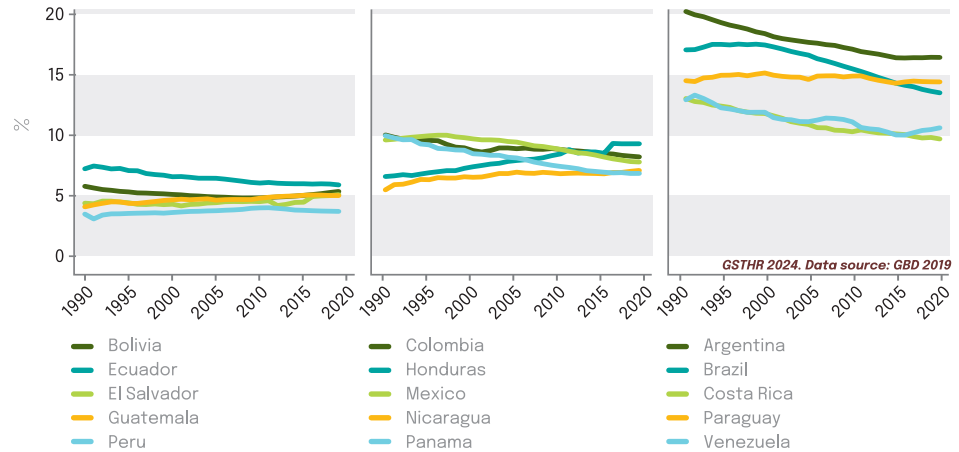
Total direct medical cost as a proportion of nominal GDP



Source: Pichon-Riviere et al. The health and economic burden of smoking in 12 Latin American countries and the potential effect of increasing tobacco taxes: An economic modelling study.[30]

Tobacco-related mortality in Latin America

Percentage of deaths caused by tobacco relative to all deaths, changes from 1990 to 2019



Source: Global Burden of Disease Study 2019 (GBD 2019) Results.[31]

Tobacco control policies in Latin America

Tobacco control issues do not receive the attention they deserve in the region. While some measures are being implemented, national attitudes towards tobacco do not appear to be changing significantly. Advocates point out that tobacco control is weak and fragmented. Health institutions – ministries, institutes, hospitals – employ only a small number of officials and doctors who are concerned with tobacco-related health issues; ministries and legislative chambers mainly deal with taxes, regulations and issues related to the economics of tobacco.

Often, those responsible for tobacco control in Latin America do not apply policies of their own design, but conform to those outlined by the WHO. In most cases, WHO guidelines are the point of reference for regulatory design and implementation processes. However, even when regulations are established, they usually remain law on paper only, with enforcement at street level rare or non-existent. There is a significant illegal market for tobacco products in the region.[32]

Although some tobacco control policies were successful at driving down regional smoking rates in the 20th century, smoking prevalence has plateaued since the beginning of the 21st. It is reasonable to ask how much of an impact it is having on people's behaviour today. Tobacco control policies are punitive and top-down, employing taxes, bans and using stigma as a tool. In countries with consistent and sufficient law enforcement, this approach may still be effective. In Latin America, however, this is not always possible.[33]

In practice, the WHO is not the only external force to hold sway over tobacco control in the region. Generously funded interest groups are known to intervene as major vectors of influence in the formation of policy, actively engaging in lobbying local legislatures and governments, providing funding to underfunded ministries, and 'training' cadres of professionals. Because numerous Latin American countries lack a tradition of governmental control and accountability, these groups frequently have free access to senior officials and their agreements are not publicly disclosed. This phenomenon varies in scale depending on how centralised a country's government is.[34,35]

Through the lens of official communications, Latin America has shown a strong commitment to the fight against smoking. Tobacco control organisations like the Secretariat of the Framework Convention on Tobacco Control (FCTC) state that the Latin American region has played a significant role in global tobacco control negotiations, with Brazil and Chile attributed positions of leadership. Civil society organisations has also played a crucial role in tobacco control efforts in the region, although their contributions may not always be recognised.

All countries in the region ratified or accepted the WHO FCTC before 2004. Colombia, Costa Rica, El Salvador and Panama have also joined the FCTC 2030 project.[36,37]

Subsequently the past decade has seen comprehensive anti-tobacco legislation implemented in many countries in the region, closely following the requirements of the FCTC. Key legislative changes include the expansion of smoke-free environments, the introduction and increased visibility of pictorial health warnings on tobacco products, and restrictions on advertisement and promotion. These changes also apply to new products such as nicotine vapes, now regulated in a similar way to traditional tobacco products in some countries.

Table 3 **WHO FCTC ratification in Latin America**

Country	Signature	Ratification, Acceptance
Argentina	25 Sep 2003	
Bolivia	27 Feb 2004	15 Sep 2005
Brazil	16 Jun 2003	3 Nov 2005
Chile	25 Sep 2003	13 Jun 2005
Colombia		10 Apr 2008
Costa Rica	3 Jul 2003	21 Aug 2008
Cuba	29 Jun 2004	
Dominica	29 Jun 2004	24 Jul 2006
Ecuador	22 Mar 2004	25 Jul 2006
El Salvador	18 Mar 2004	21 Jul 2014
Guatemala	25 Sep 2003	16 Nov 2005
Haiti	23 Jul 2003	
Honduras	18 Jun 2004	16 Feb 2005
Mexico	12 Aug 2003	28 May 2004
Nicaragua	7 Jun 2004	9 Apr 2008
Panama	26 Sep 2003	16 Aug 2004
Paraguay	16 Jun 2003	26 Sep 2006
Peru	21 Apr 2004	30 Nov 2004
Uruguay	19 Jun 2003	9 Sep 2004
Venezuela	22 Sep 2003	27 Jun 2006

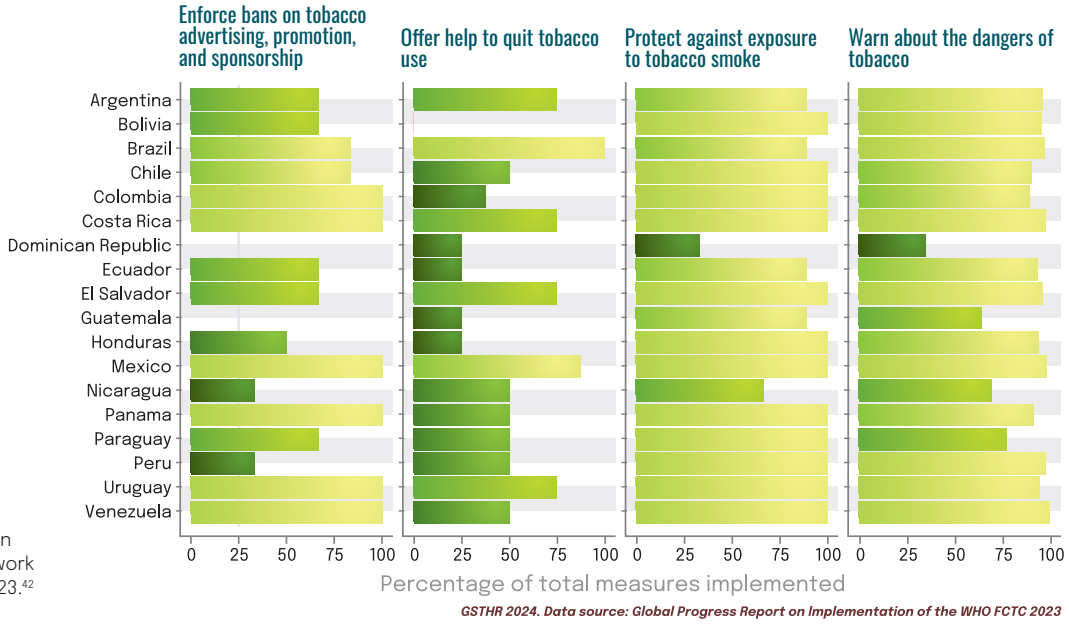
Source: World Health Organization. FCTC 2030[38] and [39,40]

Table 4 The number of the implemented measures reported under respective WHO FCTC articles in Latin America, 2023

Country	5	5.3	6	8	9	10	11	12	13	14	15	16	17	18	19	20	Average score
Maximum count	*4*	*2*	*3*	*11*	*3*	*4*	*8*	*12*	*10*	*20*	*13*	*11*	*3*	*4*	*7*	*19*	*10*
Bolivia	2	2	0	7	2	3	8	4	5	2	8	5	0	2	0	7	3.56
Brazil	4	2	1	11	3	2	7	5	4	9	11	9	1	2	5	19	5.94
Chile	3	2	1	11	0	3	8	5	6	6	4	7	0	2	2	12	4.50
Colombia	2	1	1	11	0	0	7	11	10	8	10	11	1	2	1	15	5.69
Costa Rica	1	0	2	11	1	3	8	12	9	18	8	11	0	2	3	14	6.44
Dominica	1	0	1	0	0	0	0	10	0	1	0	0	NA	NA	0	1	1.00
Ecuador	3	1	1	10	1	4	8	7	0	11	6	10	0	2	5	8	4.81
El Salvador	1	0	2	11	0	2	8	5	0	14	8	11	NA	NA	1	15	5.57
Guatemala	0	1	1	11	0	0	3	6	0	6	3	7	0	0	0	3	2.56
Honduras	2	2	3	11	3	4	8	12	5	18	12	11	1	4	5	19	7.50
Mexico	4	1	2	11	0	4	8	11	10	14	13	11	1	0	5	15	6.88
Nicaragua	3	0	3	9	1	2	8	11	6	4	11	11	0	4	3	3	4.94
Panama	3	2	3	11	0	0	8	12	10	19	10	11	0	2	2	17	6.88
Paraguay	4	1	3	11	0	4	7	9	9	17	10	11	0	0	3	16	6.56
Peru	0	0	1	11	0	0	7	8	0	10	5	8	0	0	0	4	3.38
Uruguay	3	0	3	11	2	2	8	5	8	11	8	11	0	0	0	9	5.06
Venezuela	4	1	3	11	3	4	8	12	9	19	8	11	NA	NA	2	16	7.93

Source: Global Progress Report on Implementation of the WHO Framework Convention on Tobacco Control 2023.[41]

Percentage of all MPOWER measures implemented in Latin American countries



GSTHR 2024. Data source: Global Progress Report on Implementation of the WHO FCTC 2023

Source: Author's calculations based on Global Progress Report on Implementation of the WHO Framework Convention on Tobacco Control 2023.[42]

Compliance with the FCTC agreements has implications for the development and implementation of national tobacco control policies. Many Latin American countries have implemented smoke-free policies to protect public health and reduce the harmful effects of tobacco smoke. These policies vary in their scope and stringency, but they generally aim to create smoke-free environments in indoor public spaces, workplaces, and certain outdoor areas. All Latin American countries require the use of graphic health warnings (GHW) on tobacco packaging. The size, placement, and rotation of GHWs may vary among countries. Some countries have implemented large, prominent warnings covering a significant portion of the packaging, while others may have smaller warnings placed in less conspicuous locations. The specific images used in GHWs may differ among countries based on cultural preferences and public health priorities. Some countries may rotate a set of standardised images, while others may allow for variations in the images used.

Uruguay has among the strictest smoke-free laws in the region. Comprehensive smoke-free legislation was implemented in 2006, prohibiting smoking in all indoor public places and workplaces, including restaurants, bars, and casinos. A comprehensive ban on tobacco advertising, promotion, and sponsorship in all media, including print, broadcast, and digital platforms has also been enacted.[43] The country also has one of the most extensive requirements for GHWs in the region. In Uruguay, GHWs cover 80% of both the front and back of cigarette packages, making them among the largest in the world.

Argentina implemented its National Tobacco Control Law in 2011, which includes smoke-free regulations prohibiting smoking in indoor public spaces and workplaces as well as restrictions on tobacco advertising. Enforcement of these regulations can be weak, leading to widespread exposure to tobacco promotions, particularly in outdoor advertising and at point-of-sale locations. Application of the law can also vary across different regions of the country.

Brazil has implemented comprehensive smoke-free legislation, banning smoking in indoor public places and workplaces since 2014. Brazil's smoke-free law cover places such as restaurants, bars, and shopping malls.[44] The country also has comprehensive restrictions on tobacco advertising, but the enforcement of these regulations can vary across different regions of the country. While national laws prohibit tobacco advertising on television, radio, and billboards, some local jurisdictions may have additional restrictions.[45,46,47]

Chile passed its Law on Tobacco Control in 2013, outlining restrictions on tobacco advertising, promotion, and sponsorship. It also mandates the inclusion of health warnings on cigarette packaging and smoke-free policies in public places, including restaurants, bars, public transportation, and indoor workplaces. Tobacco taxes are in place, and public health campaigns and educational initiatives are conducted to both raise awareness about the dangers of tobacco use and encourage smoking cessation. Help for individuals who want to quit smoking is provided through publicly funded smoking cessation programmes and resources, such as counselling services, helplines, or other support.

Mexico implemented smoke-free policies in 2008, banning smoking in indoor public spaces and workplaces. The law also prohibited smoking in specific outdoor areas at schools, hospitals, and public transportation stations. In 2023, however, Mexico modified an existing piece of legislation, heralding the introduction of one of the world's strictest anti-smoking laws. A complete ban on smoking in public places, including hotels, beaches and parks has been imposed.[48]

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enforcing Colombia's laws is challenging, particularly in remote and rural areas where monitoring may be limited

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Paraguay modified its anti-tobacco law in 2020 and includes within its scope heated tobacco products and vaping devices, with or without nicotine

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attempts to circumvent or exploit loopholes in the law on tobacco advertising, promotion and sponsorship are commonplace in Paraguay

Mexico has a less restrictive approach when it comes to laws on tobacco advertising. Regulations that prohibit tobacco advertising on television and radio during certain hours are in place, but tobacco companies can still promote their products through other channels, such as print media and sponsorships.

Colombia enacted its tobacco control Law 1335 in 2009, which established comprehensive tobacco control measures. The law includes provisions such as smoke-free environments, tobacco advertising bans, health warnings on tobacco packaging, and measures to prevent tobacco sales to minors. Smoke-free policies in indoor public places and workplaces, including restaurants, bars, and public transportation, are also in place. Colombia prohibits tobacco advertising, promotion, and sponsorship in most forms of media, including television, radio, print media, and the internet. This includes restrictions on tobacco product displays at points of sale. However, enforcing these laws is challenging, particularly in remote and rural areas where monitoring may be limited. A significant proportion of tobacco product packaging must be covered by health warnings, and the Colombian government has implemented public awareness campaigns and tobacco cessation programmes.

Peru implemented smoke-free legislation in 2010. The law prohibits smoking indoors in workplaces, public areas, and on public transport. It is also banned in the outdoor areas of educational and health facilities. While there is no comprehensive ban on tobacco advertising, certain practices like TV, radio, and website ads are prohibited. Advertising is restricted to specific print media targeting adults, with limitations on location. Brand markings on clothes and accessories are banned, and there are restrictions on tobacco sponsorship. Health warnings, including graphic images, must cover 50% of tobacco packaging, with rotating warnings and images mandated every twelve months. Misleading packaging terms like “light” and “low tar” are prohibited.[49]

Costa Rica’s Tobacco Control Law No. 9028 was passed in 2012 and established comprehensive measures, similar to those in Colombia. Indoor public places and workplaces, including restaurants, bars, and public transportation, must be smoke-free, with designated smoking areas permitted only in certain outdoor spaces.[50] There are strict regulations on tobacco advertising, promotion, and sponsorship, and tobacco advertising is banned on radio, television, and billboards. Sponsorship of events or activities by tobacco companies is also prohibited, and a significant proportion of tobacco product packaging must be covered by graphic health warnings. Public health campaigns and smoking cessation support are both present.

Paraguay modified its anti-tobacco law in 2020. The new decree regulates the consumption of tobacco products, and included within its scope heated tobacco products and vaping devices, with or without nicotine. These products can only be consumed outdoors, in areas where there is no crowd or assembly of people, and must not be used where there are no passageways for non-smokers.[51] However, the GHWs on tobacco packaging required by Paraguay’s regulations are the smallest in the region.

Attempts to circumvent the law or exploit loopholes are commonplace. While Chile has introduced restrictions on tobacco advertising, promotion and sponsorship, concerns have been raised about loopholes in the law that allow tobacco companies to indirectly market their products, for example through ‘brand stretching’ or sponsoring events with tobacco-related images. In Peru, despite bans on tobacco advertising on television, radio, and billboards, there are still opportunities for tobacco companies to engage in promotional activities at point of sale, such as discounts and product displays.

Safer nicotine products in Latin America

Safer nicotine products are widely available in Latin American countries. Even in countries where legal purchase is not possible, these products are in use. This is supported by official prevalence data.

Fully understanding the presence and use of SNP in Latin America is therefore difficult without taking illicit markets into account, given the large scale of these markets operating in many countries. However, the scale and scope of access to illicit products is not usually documented, making it difficult to quantify and cite – largely leaving researchers limited to observations about whether consumers can or cannot legally purchase different types of SNP in each country.

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fully understanding the presence and use of SNP in Latin America is difficult without taking illicit markets into account

Country	NVP	HTP	SNUS	NP
Argentina	●	●	●	●
Bolivia	●	●	●	●
Brazil	●	●	●	●
Chile	●	●	●	●
Colombia	●	●	●	●
Costa Rica	●	●	●	●
Dominican Republic	●	●	●	●
Ecuador	●	●	●	●
El Salvador	●	●	●	●
Guatemala	●	●	●	●
Honduras	●	●	●	●
Mexico	●	●	●	●
Nicaragua	●	●	●	●
Panama	●	●	●	●
Paraguay	●	●	●	●
Peru	●	●	●	●
Uruguay	●	●	●	●
Venezuela	●	●	●	●

Product type

NVP – nicotine vaping products
HTP – heated tobacco products
NP – nicotine pouches

Availability

● This product category is banned
● Specialised retail or pharmacies only
● General retail

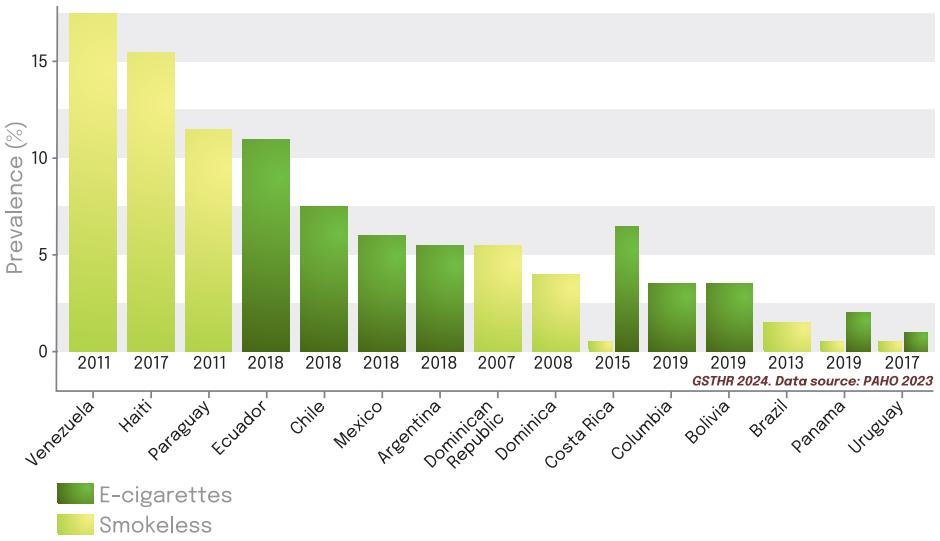
Data source: Anti-Smoking Global Index[52]

Prevalence of SNP

Official monitoring of the prevalence of safer nicotine products is limited in Latin America. It mainly focuses on nicotine vaping products, although surveys are increasingly including HTP as well. However, the prevalence of other products such as snus, nicotine pouches or even nicotine replacement therapy (NRT) remains unknown.

Monitoring smoking and SNP use is important, as it allows us to understand the extent to which safer alternatives are replacing combustible tobacco. To observe and quantify this substitution process, the dynamics of smoking and SNP use must be monitored over time. At the moment, data have to be drawn from multiple sources, which include official prevalence estimates, national or smaller scale population surveys and, where available, market data. This means that the resulting figures are comparable only with the application of numerous assumptions; they cannot be taken as evidence, only insights.

Percentage of current smokeless tobacco use and e-cigarettes use among adult in Latin America, using the most recent survey



Source: Current use among adults, WHO report on the global tobacco epidemic, 2021: addressing new and emerging products. 8th edition[53] presented Report on Tobacco Control for the Region of the Americas 2022. Pan American Health Organization.[54]

According to official WHO estimates - which for some countries date back as far as 2007 - the prevalence of both vaping and smokeless tobacco[ii] use was low throughout the region. Ecuador had the highest prevalence of e-cigarette use at 2.2% in 2018, followed by Mexico at 1.2% the same year. For smokeless tobacco, WHO estimates found Venezuela had the highest prevalence at 3.5% in 2011.

In Brazil, nicotine vapes have been banned since 2009. However, a study by the Instituto Nacional de Câncer (INCA) estimated that in 2019, almost one million Brazilians regularly used them.[55] This number has increased in recent years. Recent results from research agency Ipec showed that there were 2.2 million nicotine vape users in 2022 and 2.9 million in 2023.[56]

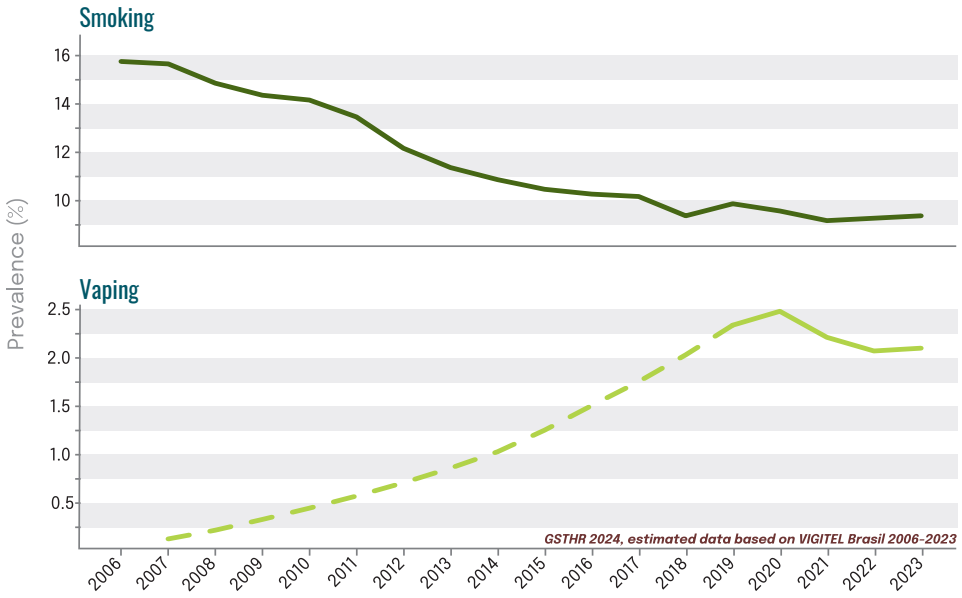
In 2022, 9,004 Brazilians aged 18 and older responded to a COVITEL study (Telephone Inquiry of Risk Factors for Chronic Non-Communicable Diseases). This survey was delivered by the Federal University of Pelotas (UFPel) in partnership with Vital Strategies, a US-based NGO. Vital Strategies receives funding for tobacco control activities from Bloomberg Philanthropies. The survey found that 7.3% of respondents had tried a nicotine vape in the first quarter of 2022 (over 11 million adults). Among young adults between 18 and 24 years old, almost 20% had tried nicotine vaping products.[57] For 2023, the COVITEL study report includes regional data and distribution, and estimates the total number of people to have used nicotine vapes in Brazil in the first quarter of 2023 to be "around 4 million people".[iii,58]

VIGITEL, from the Brazilian Ministry of Health, began publishing data on the estimated percentage of daily or occasional nicotine vape use among adults in Brazil's state capitals and the Federal District in 2019.[59] With only some slight fluctuations, the figures have remained relatively stable between 2019 and 2023, when the estimate was 2.1%.

[ii] In the source reports, the WHO defines smokeless tobacco as oral or intranasal tobacco. This category can include snus, but also other types of smokeless tobacco such as nasvay or gutka etc., which do not fall into the category of safer nicotine products. It is unclear from the source, but tobacco-free nicotine pouches are probably not included in the term 'smokeless tobacco'.

[iii] 'As análises que constam nesta seção consideram o número estimado de pessoas que usam ou já usaram cigarro eletrônico (cerca de 4 milhões de pessoas no Brasil, no primeiro trimestre de 2023).'

Prevalence of current smoking and vaping in Brazil



Source: Vigitel Brasil 2006-2023: Tabagismo e consumo abusivo de álcool, 2023.[60] Current use among adults.

Individuals associated with the THR advocacy community in Latin America estimate that there are around three million regular users of SNP in Brazil – mainly nicotine vaping, with fewer people using snus and nicotine pouches.

The estimated market size for nicotine replacement therapy (NRT) in Brazil is €24.1 million ($25.8m).[61] Adjusted for annual inflation, the country's tobacco market has fallen from over USD 7.6bn in 2015 to about USD 4.5bn in 2020-2021. Euromonitor estimates that this value will slightly increase to USD 5bn by 2026. There is no information on the value of the market for nicotine products other than combustible tobacco.

The prevalence of vaping in Chile is unknown. People involved in THR advocacy efforts in the country have suggested that in 2022, up to 6% of the population were current vapers; ECigIntelligence is more conservative, estimating instead a total of 1.7% in 2023.

Adjusted for annual inflation, the combustible tobacco market in Chile has fallen from nearly USD 2.6bn in 2017 to less than USD 1.9bn in 2020.[iv] Euromonitor projects it will fall further to USD 1.7bn by 2026.

The market for vaping products in Chile has grown from just over USD 10 million in 2015 to around USD 22 million in 2023, with Euromonitor predicting further growth to USD 30 million by 2026. Once HTP are introduced to official sales data, the market for these products is expected to grow rapidly, with predictions suggesting it may almost reach USD 70 million by 2026.[62]

official monitoring of the prevalence of safer nicotine products is limited in Latin America

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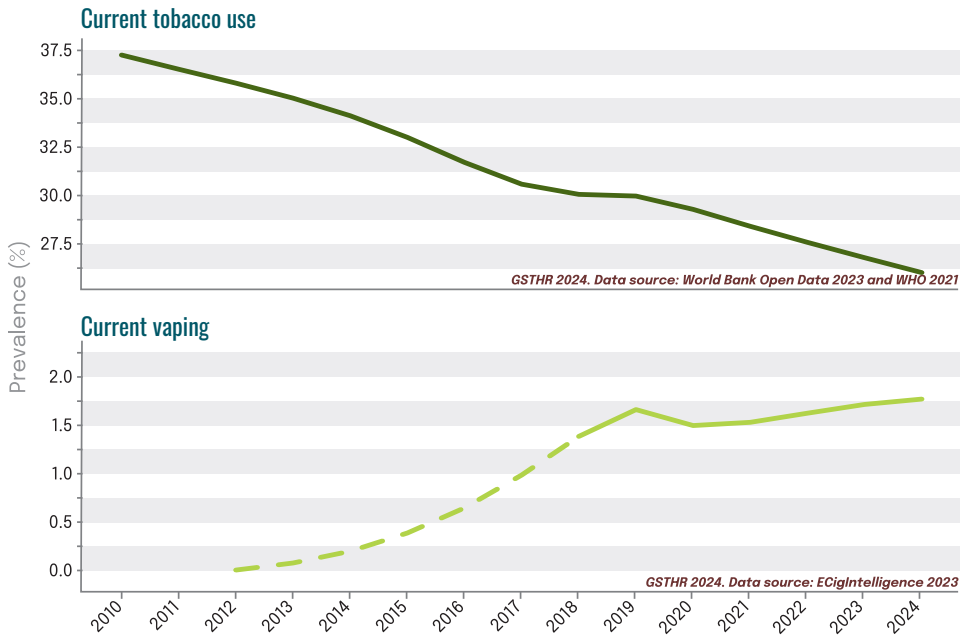
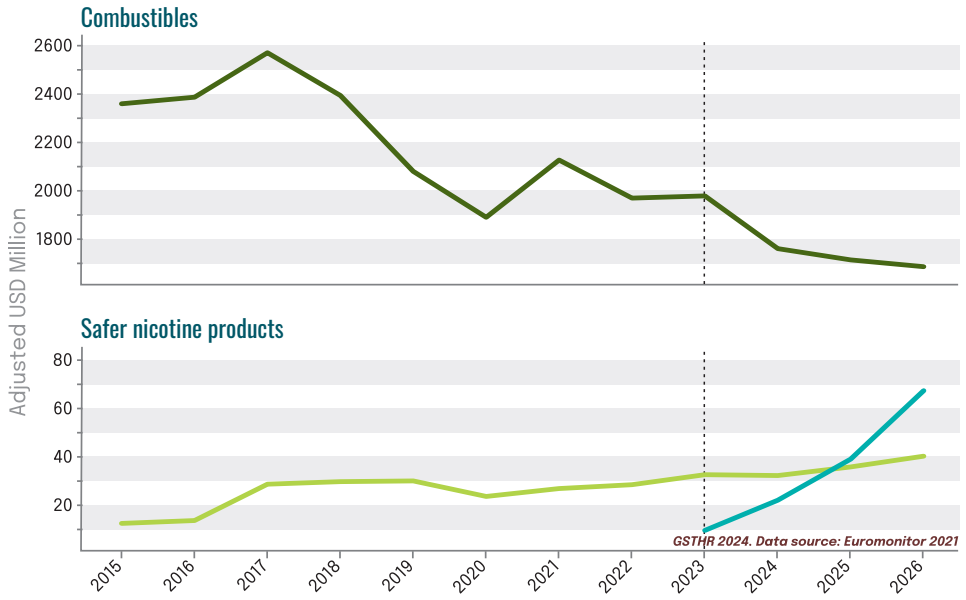
[iv] All market value analyses were carried out on an inflation-adjusted USD basis with a base year of 2015. It is worth noting that the value of the USD fell by 29% from 2015 to 2023.

Prevalence of current tobacco use and vaping in Chile



Source: Current tobacco use: World Bank Open Data, Prevalence of current tobacco use[63] and WHO global report on trends in prevalence of tobacco use 2000–2025, fourth edition.[64] Current Vaping: ECigIntelligence market database[65]

Retail value of the nicotine product market in Chile



All Smoking Tobacco
Nicotine Vaping Products
Heated Tobacco Products

Source: Euromonitor 2021.[66]

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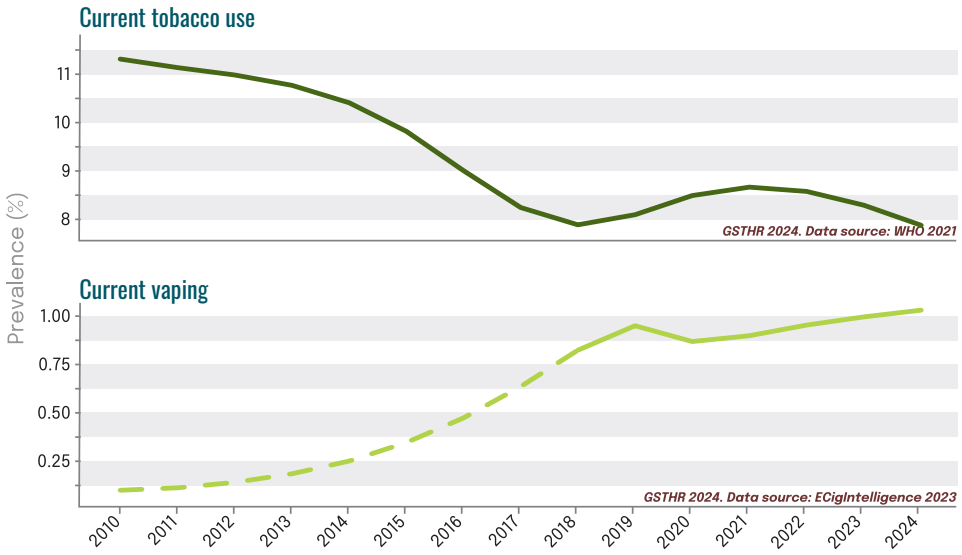
Colombia has no official data on the number of users of SNP

Colombia also has no official data on the number of users of SNP. Consumer advocates and social workers estimate that consumption has increased, especially for disposable devices. Unfortunately, with no regulation, Colombia has no way of monitoring this phenomenon. ECigIntelligence estimates that in Colombia, e-cigarette prevalence exceeded 0.8% in 2019 and will exceed 1% by 2025.

Meanwhile, Euromonitor estimates that the value of the combustible tobacco market in Colombia has fluctuated over recent years, but is currently showing an upward trend - and is predicted to grow from an estimated USD 600 million (adjusted for inflation) in 2016 to more than USD 800 million in 2023. Predictions suggest it will now decline slightly. The market for vaping products has been growing exponentially since 2015 and is estimated to exceed USD 3 million by 2026.

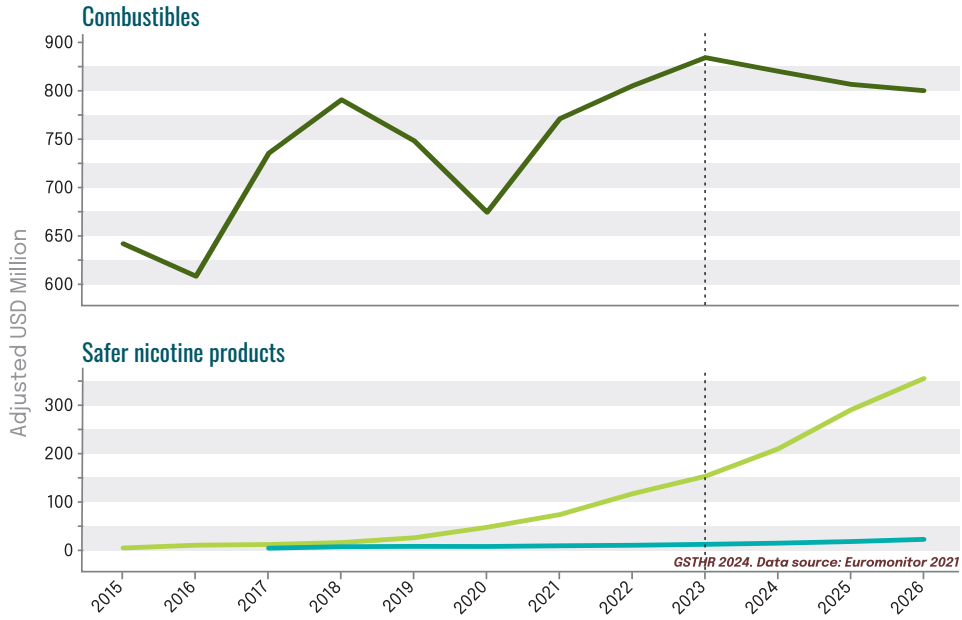
In Costa Rica, the percentage of people who had ever heard of and had ever used nicotine vapes has increased significantly over recent years. In 2015, 47.5 per cent

Prevalence of current tobacco use and vaping in Colombia



Source: Current tobacco use: WHO global report on trends in prevalence of tobacco use 2000–2025, fourth edition[67] Current Vaping: ECigIntelligence market database.[68]

Retail value of the nicotine product market in Colombia



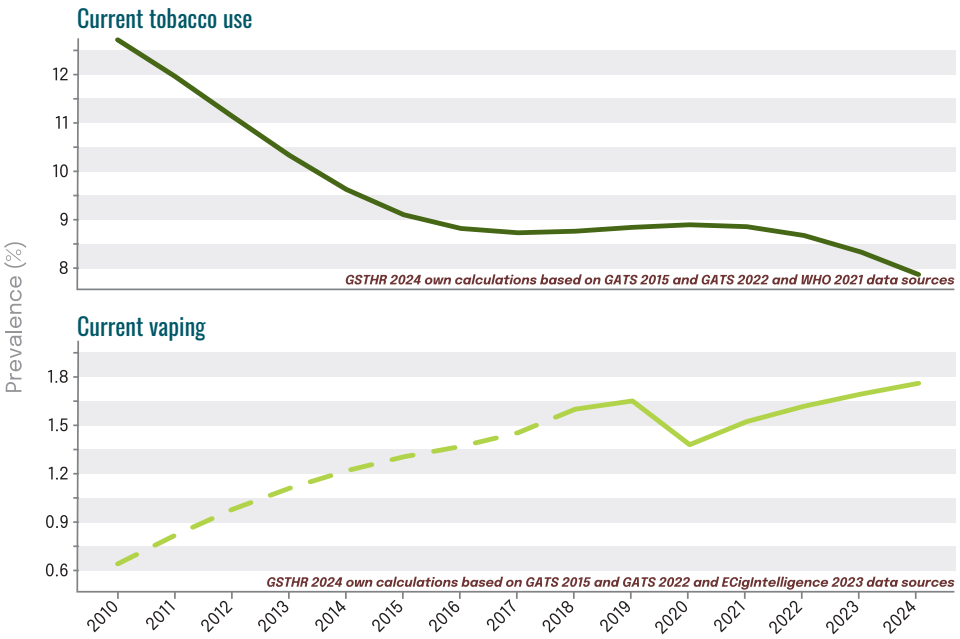
Source: Euromonitor 2021.[69]

of the population surveyed said they had heard of vaping products; by 2022, this was 58.4%. Similarly, 4.15% of the population had used nicotine vapes at least once in 2015; this was 6.5% by 2022. The prevalence of current use of nicotine vaping products increased slightly from 1.3% in 2015 to 1.6% in 2022.[70]

Data on the use of HTP in Costa Rica were not recorded by the GATS until 2022, when 5.6% of those surveyed said they had heard of them, but only 0.1% had ever used one, and just 0.04% were current HTP users.[71]

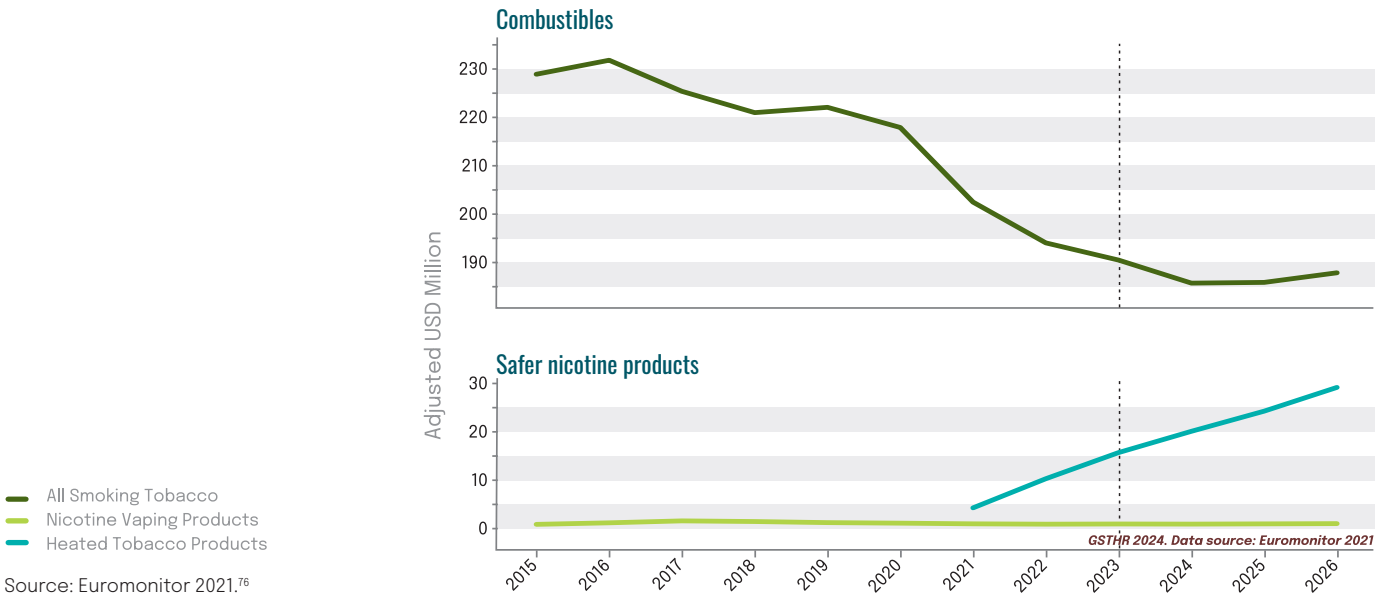
Euromonitor estimates that the value of the combustible tobacco market in Costa Rica is on a downward trend. In 2016, it stood at more than USD 230 million (adjusted for inflation), but by 2022 it had fallen to less than USD 190 million, and is now estimated to continue to decline steadily. Euromonitor's registered market for vaping products was negligibly low, but it estimates that the market for HTP has been growing since 2021 and could exceed USD 28 million by 2026.[72]

Prevalence of current tobacco use and vaping in Costa Rica



Source: Global Adult Tobacco Survey (GATS), Comparison Fact Sheet Costa Rica 2015 & 2022.[73] Current tobacco use: WHO global report on trends in prevalence of tobacco use 2000–2025, fourth edition.[74] Current Vaping: ECigIntelligence market database.[75]

Retail value of the nicotine product market in Costa Rica



Source: Euromonitor 2021.[76]

In 2022, Mexico's National Health and Nutrition Survey (ENSANUT) found that 0.19% of respondents described themselves as 'daily vapers' and 1.85% as 'current vapers'. While the percentage of respondents who reported using vapes every day was low, 1.66% of respondents reported that they did use nicotine vapes 'sometimes'. The category of 'current e-cigarette users' is therefore determined by combining these two groups.

More men (2.37%) than women (1.37%) identified themselves as current vapers. Almost half (46.97%) of the survey respondents said they were not familiar with nicotine vapes in general; among smokers, this dropped to around one in three (31.62%). Women were more likely to report no knowledge of vaping than men.

The highest number of vapers was among those aged 17–19 (0.55% daily, 5.37% current). The prevalence of current vaping declined sharply among those over 30 (1.53%). The percentage of daily vapers halved between the ages of 19 and 25 (0.55% to 0.23%). Daily vapers aged 60 and over were not recorded in the survey.

Among children and young people aged 10 to 14 years old, just over 56% reported no knowledge of vaping. By the age of 17, this had fallen to 31%. From this age group upwards, however, the lack of awareness of vaping grew progressively with age, reaching 73% among those aged 70 and over.

Mexico's National Health and Nutrition Survey in 2022 found that half the respondents said they were not familiar with nicotine vapes

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in Mexico, the percentage of daily vapers halved between the ages of 19 and 25 (0.55% to 0.23%)

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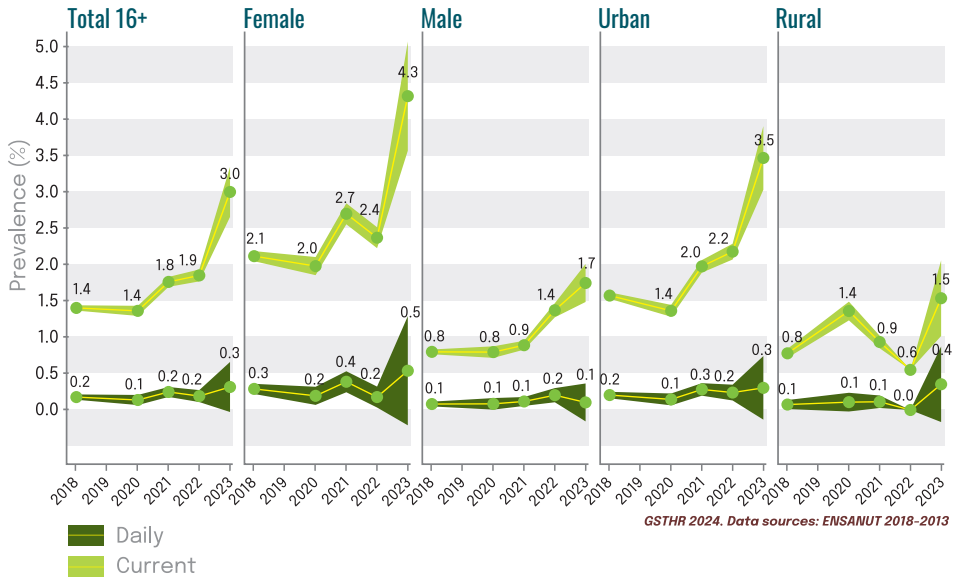
survey findings point to significant differences in vaping rates between rural and urban areas in Mexico

A different picture was recorded among people who smoked. Across all age cohorts, the lack of awareness of vaping increased steadily. Among children aged between 10 and 14 who were already smoking, 12% had no awareness of vaping. Among those aged 70 or over, this figure was 59%.

The ENSANUT survey findings point to significant differences in vaping rates between rural and urban areas in Mexico. Among inhabitants of rural areas, the number of daily vapers was so low it could not be registered by the survey; the prevalence of current vapers stood at just 0.05%.

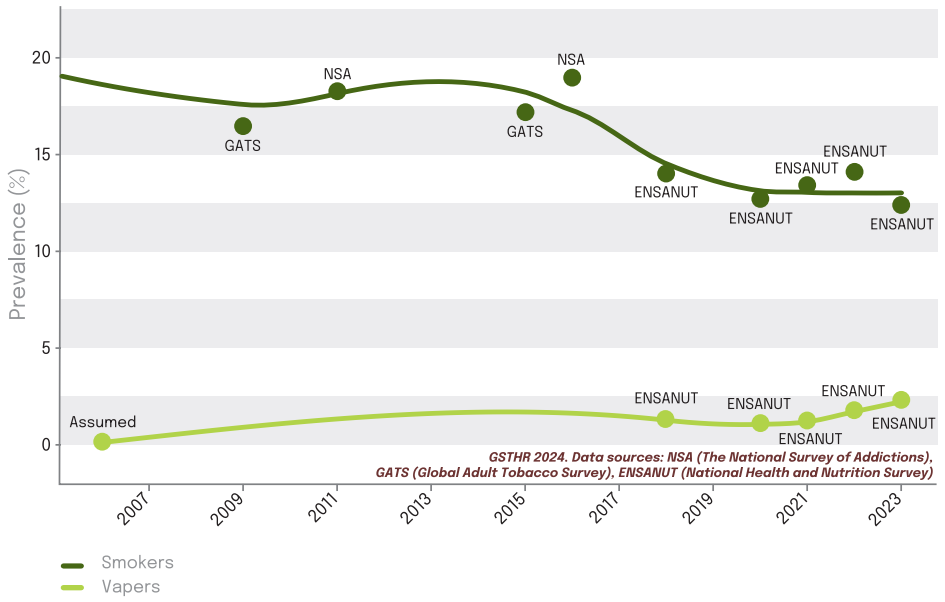
In cities with up to 100,000 inhabitants, meanwhile, 0.13% of respondents were daily vapers, which rose to 0.3% in metropolitan areas. The highest number of people vaping daily was in cities (2.22%), and slightly less in metropolitan areas (2.16%). The lack of knowledge about vaping decreased with the size of the place of residence. It was highest in rural areas at 60%, in cities it was 50% and it was lowest in metropolitan areas at 40%. Among smokers, the level of ignorance among residents of rural areas and smaller towns was similar, at 37%. In metropolitan areas, only 28% of smokers did not know what nicotine vapes were.

Prevalence of vaping in Mexico, 2018–2023



Source: Author's calculations based on the Encuesta Nacional de Salud y Nutrición (ENSANUT) dataset.[77]

Prevalence of smoking and vaping in Mexico



Source: Author's calculations based on the Encuesta Nacional de Salud y Nutrición (ENSANUT) dataset[78], National Survey of Addictions[79] and Global Adult Tobacco Survey (GATS) 2015.[80]

there is no official information on the prevalence of SNP use in Peru

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political debate is being shaped by the public perception of vaping in Peru

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data highlight a significant reduction in tobacco use alongside a gradual increase in vaping over the 15-year period in Peru

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the market for nicotine vapes has shown consistent growth across these countries, but it is the HTP market that has undergone the most significant change

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Uruguay has experienced dramatic growth in its HTP market, jumping from $49.18 million in 2023 to an astonishing $436.59 million in 2024

In Peru, there is no official information on the prevalence of SNP use. Currently, only vaping products are available in Peru, with no presence of HTP or snus.

The distribution of vaping products has evolved, with more stores appearing, including online shops, due to the popularity of disposable vapes. However, misinformation remains a challenge for the vaping industry, including in communications disseminated by the official health authorities.

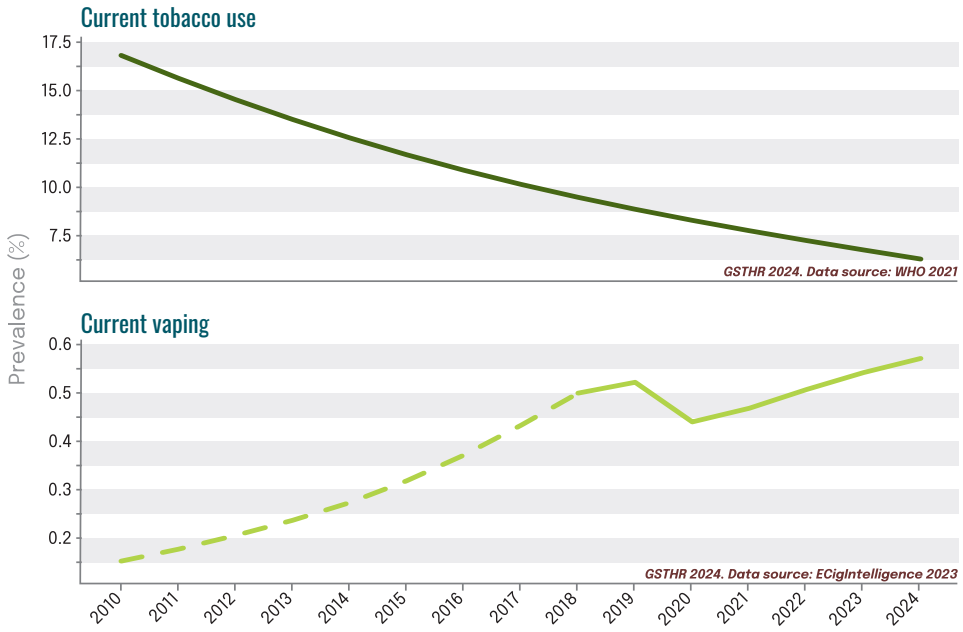
Various proposals regarding taxation have been heard in the Peruvian Congress. Some propose taxing vaping at the same rate as cigarettes. Others are advocating for lower taxes, recognising vaping as a differentiated product. The political debate is being shaped by the public perception of vaping in Peru. There are still many people, including those with a real impact on regulation, who lack knowledge about SNP.[81]

According to WHO estimations, the prevalence of current tobacco use has been steadily declining in Peru. In 2010, prevalence was at 16.50%. This has decreased each year, reaching 6.25% by 2024. Concurrently, the prevalence of current vaping has shown an upward trend over the same period. GSTHR estimates indicate that vaping prevalence started at 0.16% in 2010 and gradually increased, with ECigaretteIntelligence estimations showing a rise from 0.50% in 2018 to 0.57% in 2024. These data highlight a significant reduction in tobacco use alongside a gradual increase in vaping over the 15-year period.

In the remaining countries of the region, the prevalence of SNP remains unknown. However, based on market data collected by Euromonitor, it is possible to roughly estimate the dynamics of the popularity and type of these products in each country.

In Ecuador, the combustible tobacco market has been in decline since 2016, when its value stood at nearly USD 300 million; the market dropped sharply during the COVID 19 pandemic (2019–2020), eventually recovering to a little over USD180 million in 2023. Similarly, Bolivia and Uruguay have experienced gradual declines in their combustible tobacco markets. Bolivia saw fluctuations with values decreasing from USD190 million in 2018 to USD137.98 million in 2022, while Uruguay peaked at USD538.96 million in 2018 but declined to USD389.31 million by 2022. Guatemala's combustible tobacco

Prevalence of current tobacco use and vaping in Peru



Source: Current tobacco use: WHO global report on trends in prevalence of tobacco use 2000–2025, fourth edition.[82] Current Vaping: ECigIntelligence market database.[83]

Retail value of the nicotine product market in Peru

Source: Euromonitor 2021.[84]

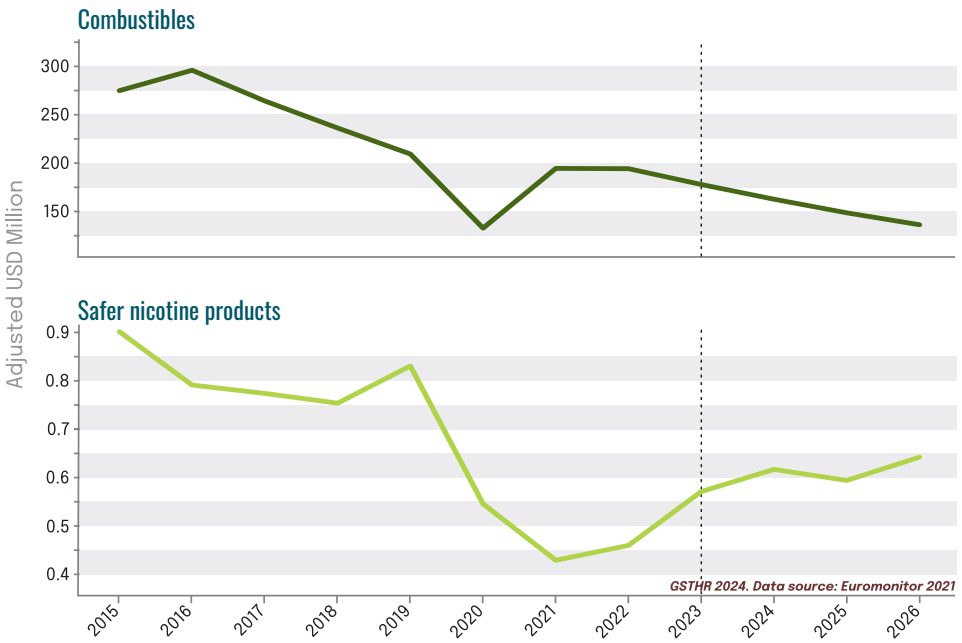
market, however, showed growth until 2019 before stagnating and slightly declining. The Dominican Republic also experienced a decline, from USD370 million in 2015 to USD277.5 million in 2022, with projections suggesting the market is stabilising and may experience a modest recovery.

During roughly the same period, the market for nicotine vaping products has shown consistent growth across these countries. In Guatemala, the market expanded from USD0.7 million in 2015 to USD1.53 million in 2022, with projections indicating further growth to USD1.99 million by 2026. The Dominican Republic saw steady growth from USD2.7 million in 2017 to a projected USD6.15 million in 2026. Bolivia's market remained stable with slight growth, from USD2.23 million in 2021 to a projected USD2.82 million in 2026. And Ecuador, where the vaping market was in decline from 2015–2021, experienced a resurgence. From a low of just under USD450,000 in 2021 it grew to USD570,000 in 2023, with projections suggesting it could reach USD650,000 by 2026.

But it is the heated tobacco market that has undergone the most significant change in Guatemala, the Dominican Republic and Uruguay. Guatemala's market grew from USD0.1 million in 2017 to USD2.22 million in 2022, with continued expansion projected. The Dominican Republic saw a major surge, from USD2.35 million in 2018 to a projected USD16.73 million in 2026. And among these countries, it is Uruguay that has experienced the most dramatic growth in its HTP

market, jumping from USD49.18 million in 2023 to an astonishing USD436.59 million in 2024, with projections suggesting it could reach USD640.23 million by 2026.

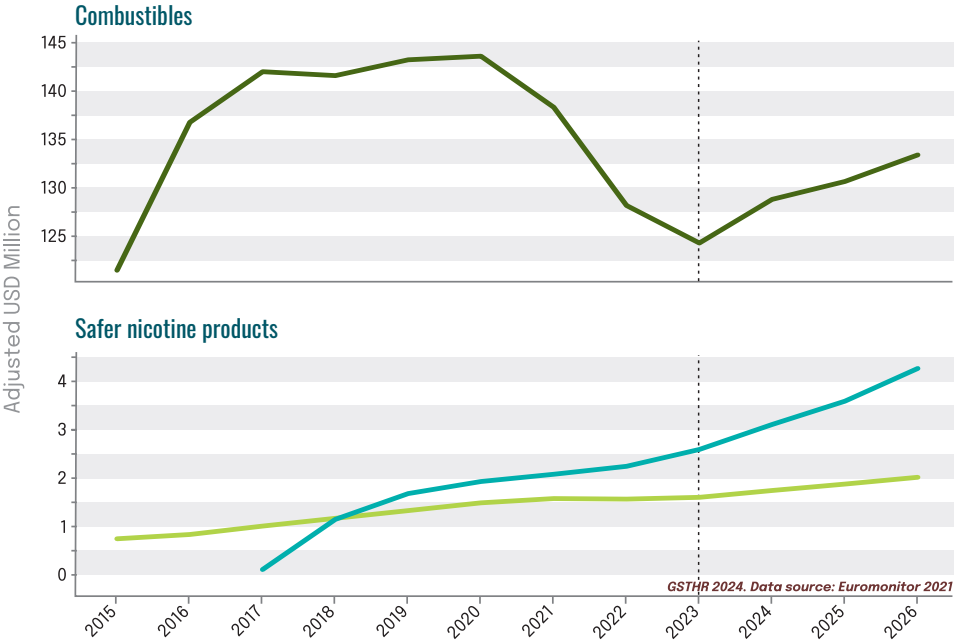
Retail value of the nicotine product market in Ecuador



All Smoking Tobacco
Nicotine Vaping Products

Source: Euromonitor 2021.[85]

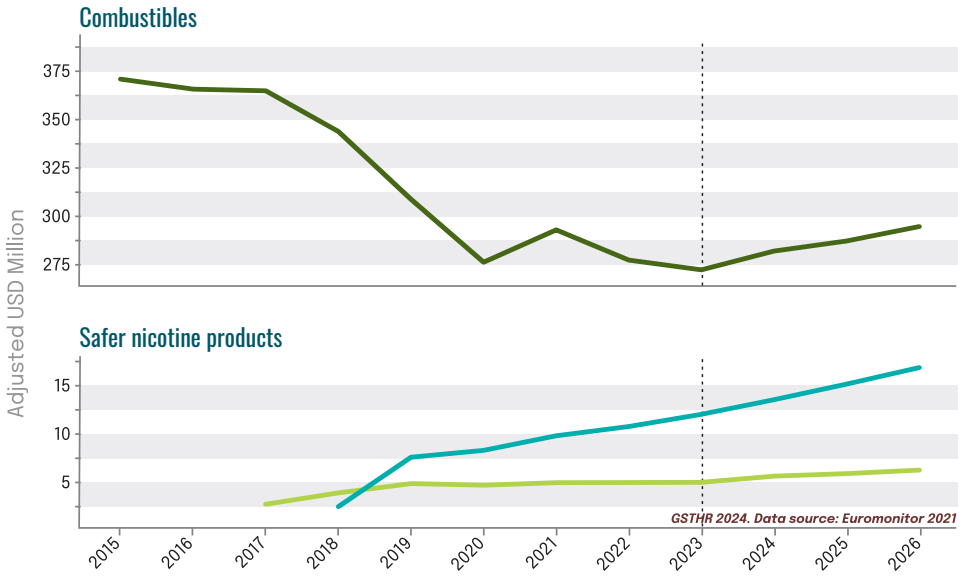
Retail value of the nicotine product market in Guatemala



All Smoking Tobacco
Nicotine Vaping Products
Heated Tobacco Products

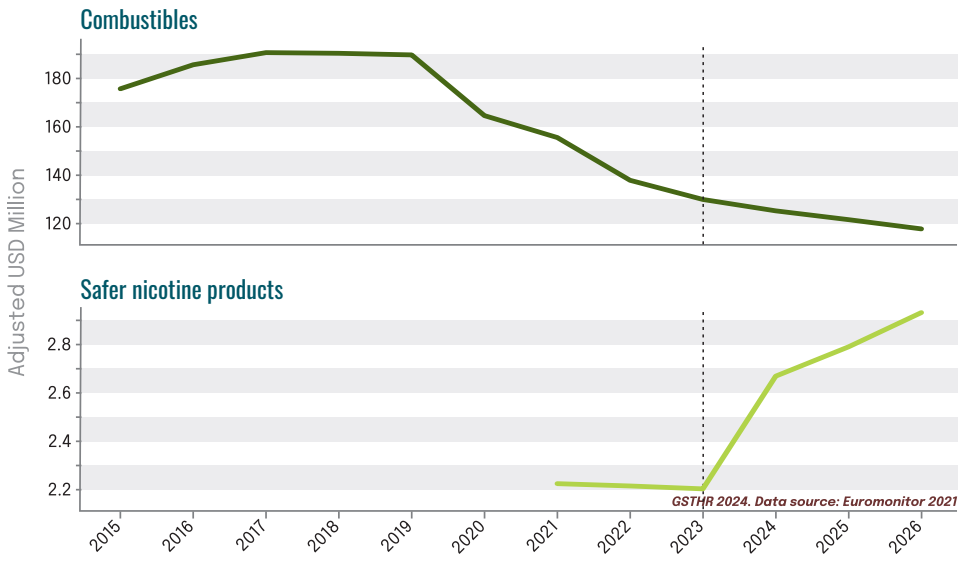
Source: Euromonitor 2021.[85]

Retail value of the nicotine product market in Dominican Republic



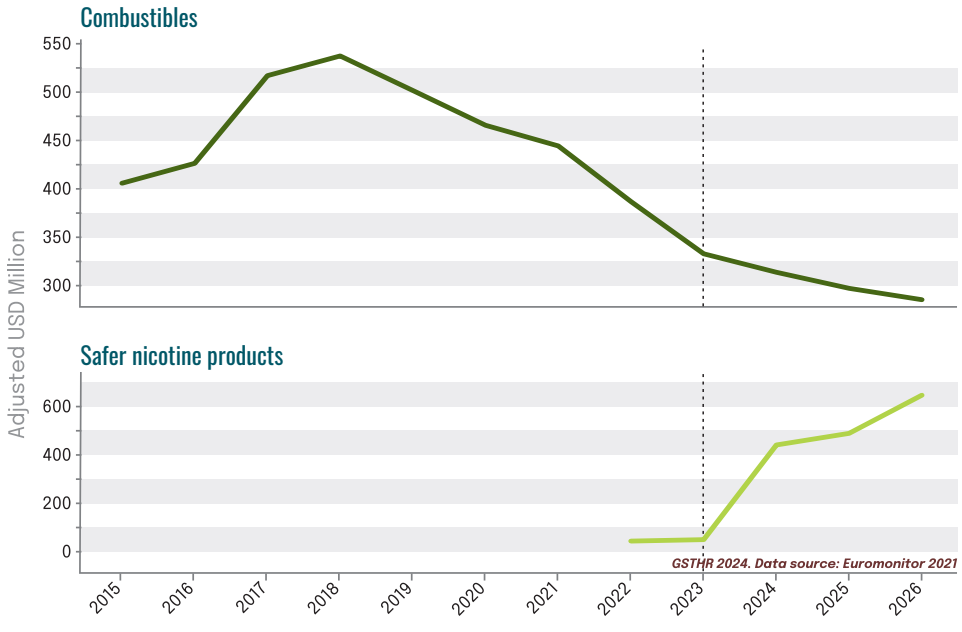
Source: Euromonitor 2021.[85]

Retail value of the nicotine product market in Bolivia



Source: Euromonitor 2021.[85]

Retail value of the nicotine product market in Uruguay



Source: Euromonitor 2021.[85]

nicotine vaping products entered the Latin American market in 2010 and are now available in most countries in the region

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a proposal to lift the Brazilian ban on what officials term 'electronic smoking devices' was rejected due to concerns about potential harm to public health

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specific legislative proposals to regulate or criminalise nicotine vapes have also been introduced in Brazil

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advocates for consumer organisations stress that Chile could have the most liberal law on nicotine vaping products anywhere in the world

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the Chilean legislative process on SNP will hopefully serve as a procedural model that could influence similar processes in the rest of Latin America

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in Colombia, the sale and use of SNP is unofficially permitted, is neither criminalised nor prosecuted, and their regulation is under discussion

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the picture is still developing with regards to the regulation of SNP in Costa Rica

Generally, however, the HTP market in Latin America is much younger and its value lower than that of the vaping market, but it has been growing since 2017 and is expected to grow rapidly over the next five years.[86] It is dominated by Philip Morris' IQOS brand; its products are sold in several Latin American countries, such as Colombia, Costa Rica and Mexico.[87]

Nicotine vaping regulations

Nicotine vaping products entered the Latin American market in 2010 and are now available in most countries in the region. Six countries in Latin America do not have regulations for these devices (Colombia, Cuba, Dominican Republic, Guatemala, Haiti, Peru). Seven countries have banned their commercialisation (Argentina, Brazil, Mexico, Nicaragua, Panama, Uruguay, Venezuela). Five have regulated them as tobacco products (Bolivia, Costa Rica, Ecuador, Honduras, Paraguay). Chile regulates them as a therapeutic product, and El Salvador classifies them as a consumer product.[88,89,90,91,92,93]

The regional market for nicotine and non-nicotine vaping devices has grown significantly over the past five years. In the main Latin American markets, Euromonitor estimated an increase in the value of retail sales from USD 21 million in 2015 to USD 94.2 million in 2020, representing 0.05% of the total value of the Latin American tobacco market.[94] The variety of brands selling devices and e-liquids is large and growing. Local brands dominate the e-liquid market in some countries, Mexico or Colombia for example. However, the share of big brands is also significant.[95]

In 2022, Brazil's National Health Surveillance Agency (Anvisa) conducted a public consultation as part of a review of the 2009 ban on what it terms 'electronic smoking devices'. This definition encompasses various harm reduction products including nicotine vapes and HTP – but not snus and nicotine pouches, which remain unregulated despite their growing popularity in Brazil.

The consultation was a mandatory step in the regulatory process that had been initiated in 2019. Ultimately, it led to the rejection of a proposal to lift the ban, due to concerns about potential harm to public health. Anvisa engaged external institutions and researchers for analysis and feedback, including Johns Hopkins University and the Centers for Disease Control and Prevention. Entities associated with the Bloomberg Initiative to Reduce Tobacco Use also played a significant role in the process.[96] The ban's continuation was considered beneficial for protecting the population, particularly children and adolescents, from increased use of the products.

Meanwhile, specific legislative proposals to regulate or criminalise nicotine vapes have also been introduced in Brazil. Despite debates over the effectiveness of the legislative process, addressing nicotine use issues through legal means is widely viewed as a step in the right direction.

Chile looks set to take a different path, however. On 27 September 2023, the Chilean Senate Health Committee voted on changes proposed in the Chamber of Deputies to Chile's laws on nicotine vaping. These amendments were approved unanimously, marking the penultimate step in the legislative process for new regulations that are being heralded as 'vaper-friendly'. Advocates for consumer organisations stress that it could be the most liberal law on nicotine vaping products anywhere in the world.

The key features of Chile's new regulations are:

- High maximum nicotine content, up to 45 mg (by comparison, the EU Tobacco Products Directive, or TPD, allows up to 20mg at the time of writing);
- No limitations on the capacity of the packs released for sale (in comparison, the EU TPD allows a maximum e-liquid container capacity of up to 10ml);
- Advertising safer nicotine products will not be completely banned. Certain types of advertising under pre-defined conditions will be permitted, for example, inside shops that sell nicotine products;
- Prohibition of sales to minors;
- Appropriate health warnings;
- A complete and clearly defined distinction between nicotine vapes and tobacco (even though the regulations will be part of the Tobacco Act);
- No restrictions on flavours;
- No additional taxes.

On 4 October 2023, in the plenary session of the Chilean Senate, the last legislative vote on the vaping law took place. Once again, the Bill received unanimous support. On 4 January 2024, the law was published, and it is expected to come into force at some point in 2024.[97]

Law No. 21.642. – Amends Law No. 19.419, to prohibit the sale of electronic cigarettes to minors; to assimilate electronic nicotine delivery systems, similar mechanisms without nicotine and heated tobacco products to tobacco products; and to regulate alternative devices with or without nicotine.[v]

The Chilean legislative process on SNP is a positive example, and will hopefully serve as a procedural model that could influence similar processes in the rest of Latin America.

For example, in Colombia, there is no regulation of lower-risk nicotine delivery products at present. On 2 November 2023, potential legislation was discussed in the Congress of the Republic of Colombia. The proposed law would introduce the concept of differentiated risk and harm reduction, and bring safer nicotine products under the current Tobacco Control Act (1335). The sale of SNP would not be banned, but would be subject to the same restrictions and taxes as combustible tobacco.

While another bill was under development, it now looks unlikely this will proceed in addition to the proposed legislation outlined above. Thus, in Colombia at present, the sale and use of SNP is unofficially permitted, is neither criminalised nor prosecuted, and their regulation is under discussion. All types of SNP are sold, from advanced vaping devices to disposable vaping products, HTP, snus and nicotine pouches.

In Costa Rica, nicotine vapes and HTP are legally available in vape shops, convenience stores and some supermarkets, while nicotine pouches and snus are not commercialised. Oral products are not popular, seemingly due to their lack of historical presence and cultural patterns associated with their use.

Costa Rica's main tobacco control legislation, the General Act on Tobacco Control and its Harmful Effects on Health, came into force on 22 March 2012. In October 2018, the Minister of Health mandated that tobacco distributors located by shop counters and checkouts should display health warning labels (ministerial directive DM-JM-3274-2018), and the Tobacco Labelling Regulation Commission was created (resolution DM-JM-1593-2018). The Commission revises tobacco product health warnings on an annual basis.

[v] Our own translation from Spanish: Ley numero 21.642.- Modifica la ley N° 19.419, para prohibir la venta de cigarrillos electronicos a menores de edad; asimilar a productos de tabaco los sistemas electronicos de administracion de nicotina, mecanismos semejantes sin nicotina y productos de tabaco calentado; y, regular los dispositivos alternativos con o sin nicotina.

Panamanian THR advocates filed a lawsuit arguing the ban on vaping and HTP violates the constitutional right to health by depriving people who smoke of a safer alternative product

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in May 2024, the Supreme Court of Justice in Panama ruled unanimously that Panama's ban on the sale of all vaping products is unconstitutional

•

in Peru, SNP are currently completely unregulated

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the upsurge in the availability of disposable devices has brought vaping to an ever-widening audience

•

specialist vape shops are in decline throughout the region; the established vaping community, and the alternative culture it has created, is under threat

Also in 2018, A 'Letter of Understanding' between the Ministry of Health and the Ministry of Science, Technology and Telecommunications (MICITT), created a fund to finance and promote research, technology and innovation in the field of health, as well as the dissemination of results on decision-making in tobacco control. This led to the establishment of the Laboratory of Analysis of Composition and Emission of Tobacco Products at the Costa Rican Institute for Nutrition and Health Research and Education (INCIENSA). In 2021, 15 Institutes for Alcohol and Drug Dependence were established, with a remit that includes alcohol, licit and illicit drugs, as well as tobacco. Cessation support is also provided by 34 new tobacco cessation clinics, alongside a virtual assistant.[98]

The picture is still developing with regards to the regulation of SNP in Costa Rica. In 2021, Law 10066 was enacted to regulate certain aspects related to nicotine vaping devices, non-nicotine vaping devices and devices using heated tobacco and similar technologies. In May 2024, the Ministry of Health issued a resolution to ban the import, use, sale, and commercialisation of synthetic nicotine products. This measure aims to mitigate the health risks associated with vaping, particularly among minors.[99]

In Panama, SNP are only available on the illegal market. Due to Law 315, their commercialisation is illegal. The products available are mainly single-use devices, but devices, e-liquids, salts and pure base (a mixture of glycerine and glycerol without flavourings) can be purchased from underground shops, which began operating in around 2015. Nicotine pouches are not popular, but there are people who use them - and HTP are hardly present at all.

While opposition from consumers to the ban on safer products had been growing, the situation had remained static for some years.[100] However, a change to the status quo may be on the horizon. In August 2023, Panama's Supreme Court of Justice agreed to hear a lawsuit filed by the Panamanian Tobacco Harm Reduction Association (ARDTP), which argued that the ban on vaping and HTP violates the constitutional right to health by depriving people who smoke of a safer alternative product. The legal challenge was supported by the Association of Smokers, Families for a Smoke-Free Panama and the Medicinal Cannabis Association of Panama. The lawsuit further alleged that the National Assembly broke specific parliamentary rules when passing Law 315.[101]

In May 2024, the Supreme Court of Justice in Panama ruled unanimously that Panama's ban on the sale of all vaping products is unconstitutional. News reporting of the case relays that the court found Law 315 violated parliamentary procedures. However, it was unclear at the time of writing whether the court had offered a verdict on the health aspects of the lawsuit, nor what the implications of the judgement may be.[102]

In Peru, SNP are currently completely unregulated. Various bills are under discussion, with proposals ranging from a regulatory system to protect consumers and prohibiting products for minors, to banning all vape flavours (including menthol and tobacco) and trying to force shops to sell any vape-related products in packs of 20 or over.

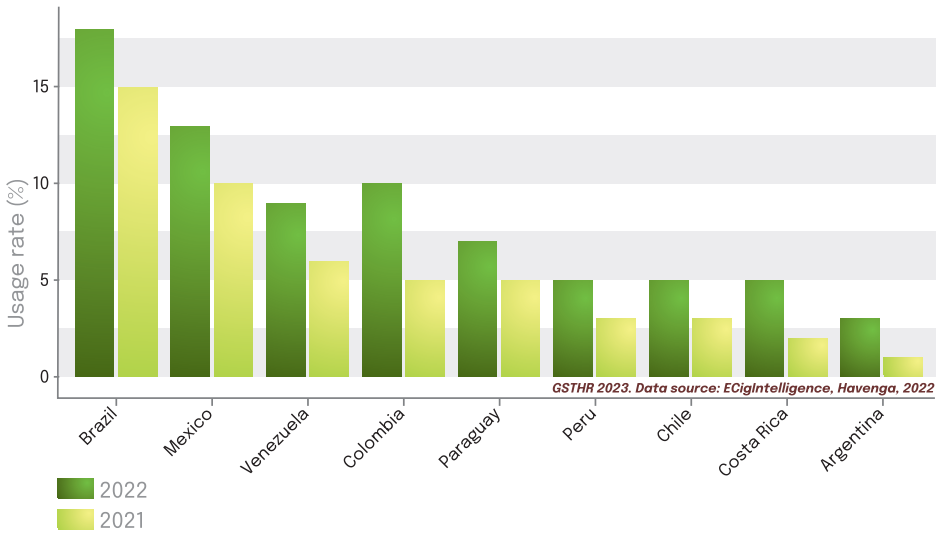
Disposables in Latin America

The upsurge in the availability of disposable devices has brought vaping to an ever-widening audience. These products have had a unique impact, the scale of which has not been seen since the emergence of nicotine vaping. But disposables are extremely divisive. On one hand, their characteristics make them an almost ideal tool to serve as an equivalent to smoking or to aid in complete cessation. On the other hand, disposables pose challenges and risks for both society and the environment.

Disposable vape devices are taking an increasing share of the Latin American market.[103] They are also widely available in countries where the sale of nicotine vapes is prohibited. ECigIntelligence reports that Brazil and Mexico are key markets for disposables in Latin America, due to the range and diversity of offerings. This is despite formal bans on vape sales in both countries.[104] In Peru, the disposables market is primarily driven by two major brands, Relx and Stlth. Colombia saw the popularity of disposable devices double from 2021 to 2022.[105]

Specialist vape shops are in decline throughout the region. In their place are informal outlets, often in the form of street stalls or even dealers standing on a street corner selling disposables. The established vaping community, and the alternative culture it has created, is under threat.

Usa of disposables as a primary device



Source: Havenga, K. (2022). Latin America: The disposable e-cigarette market. ECigIntelligence.[106]

Heated tobacco product (HTP) regulations

HTP were officially introduced in the Latin American region in 2017 in five countries (Colombia, Guatemala, Dominican Republic, Mexico and Costa Rica). Currently five countries in the region have banned the commercialisation of HTP (Argentina, Brazil, Mexico, Panama and Venezuela). HTP can be purchased and used in 13 countries, of which eight (Bolivia, Chile, Colombia, Dominican Republic, Guatemala, Nicaragua, Paraguay and Peru) do not specifically regulate the products and five (Uruguay, Costa Rica, Ecuador, El Salvador and Honduras) have separate regulations for them.[107,108]

In five countries (Colombia, Costa Rica, Ecuador, Paraguay and Peru), the sale of HTP is taxed. In Ecuador and Costa Rica, the sale of vaping devices is already taxed. In six countries (Argentina, Bolivia, Dominican Republic, El Salvador, Honduras and Venezuela), the broad definition of tobacco taxation provides governments with the opportunity to introduce excise taxes on HTP.[109]

Concluding remarks

Governments

Governments in Latin America have responded to SNP such as nicotine vaping devices with a range of approaches, and there is significant variance between countries.

Many governments have implemented regulations to govern the sale, marketing, distribution, and use of nicotine vapes. These regulations may include age restrictions, product labelling requirements, advertising restrictions, and quality control standards. Some countries have introduced taxes on vapes and vaping products, either as a means to generate revenue, or to discourage use, or both - similar to taxes on combustible tobacco products. In several countries, however, products remain entirely unregulated.

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the impact of pressure to ban SNP exerted on Latin American policymaking from anti-tobacco advocacy groups should not be discounted

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smoking – and the potential offered by SNP to improve population health outcomes – are very often overshadowed by other priority issues facing governments

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Bloomberg Philanthropies-funded NGOs have played a significant role in influencing policy related to nicotine vaping in Latin America

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NGOs with a stated focus on global health often work across borders to influence policy on vaping at an international level

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in some cases, vaping consumers have pursued legal challenges against regulations they perceive as unjust or unconstitutional

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the SNP consumer community in Latin America continues to advocate for access to vaping products as a harm reduction option for smokers

In Latin America, official government communications about SNP usually contain misleading information about their relative risks. This is most often the consequence of mirroring actions taken elsewhere without due consideration. Outright bans or severe restrictions on the sale, importation, or use of nicotine vapes have also been implemented in several countries in the region. These measures reflect similar responses around the world, and are likely to be motivated both by concerns about the potential health risks and in order to try to reduce youth initiation. However, the impact of pressure to ban SNP that has been exerted on Latin American policymaking from anti-tobacco advocacy groups, some of which may be funded from abroad, should not be discounted.

In some countries around the world, governments already have established monitoring mechanisms, which can be adapted to track the use of nicotine vapes and to enforce existing regulations. Surveys are conducted, retailers are inspected, and enforcement actions are taken against those found to be in violation. In most Latin American countries, however, public health surveys either do not exist, or omit – deliberately or otherwise – the issue of SNP.

Overall, the response of governments in Latin America to SNP is characterised by a mix of regulatory measures, public health initiatives, and enforcement efforts. Concerns about potential risks and unintended consequences of SNP availability are often dominant. The issues caused by smoking – and the potential offered by SNP to improve population health outcomes through harm reduction – are marginalised. They are very often overshadowed by other priority issues facing governments in the region.

Outside actors

Information gathered for this report suggests that some governments might be aligning their responses to SNP with organisations that are advocating against vaping. US philanthropist Michael Bloomberg and non-governmental organisations (NGOs) funded by Bloomberg Philanthropies have played a significant role in influencing policy related to nicotine vaping in various parts of the world, and Latin America is no exception. This influence is exerted in numerous ways.

For example, NGOs may provide funding to support the work of research institutions and advocacy groups that focus on tobacco control and public health. Funding is provided for studies that examine the potential impact of nicotine vaping on health and society. The results of these studies feed into advocacy and campaigning efforts that call for stricter regulations or bans. While lobbying lawmakers, NGOs also work to shape public opinion, through the production of educational materials and media engagement.

NGOs with a stated focus on global health, such as the US-based Vital Strategies and the Campaign for Tobacco-Free Kids, both heavily funded by Bloomberg Philanthropies, often work across borders to influence policy on vaping at an international level. This may be by supporting initiatives from international organisations such as the WHO – itself a recipient of Bloomberg funding – to develop guidelines and conventions related to regulation.

Global health NGOs may also, for example, provide support for legal challenges against regulations that are perceived as insufficient or ineffective in regulating vaping, or fund lawsuits against governments or industry stakeholders to push for stronger regulatory measures.

Other aspects of their involvement may include support for 'capacity-building activities' to strengthen the capabilities of local governments and civil society organisations in developing countries, including those in Latin America, to regulate and monitor vaping effectively.

Consumer advocacy

Depending on the nature and extent of controls in their respective countries, the vaping consumer community in Latin America has responded in various ways. When faced with proposed regulations or bans, many vaping consumer groups have engaged in efforts to communicate about the harm reduction potential of SNP through online and offline campaigns, petitions to their governments, and participation in public consultations, voicing their support for vaping and arguing against overly restrictive measures.

Consumer groups and individual vapers often focus on educating the public, policymakers, and healthcare professionals about the benefits of vaping as a harm reduction tool. They share scientific evidence and personal testimonials to counter misinformation and stigma surrounding nicotine vaping. In some cases, vaping consumers have pursued legal challenges against regulations they perceive as unjust or unconstitutional. They may seek legal representation to challenge bans or restrictions on vaping products through the court system.

Vaping consumers in Latin America often rely on online communities and support networks to share information, discuss regulatory developments, and provide mutual support. These communities serve as valuable resources for vapers navigating regulatory challenges.

Despite what they see as the over-regulation of products, there are many SNP users in Latin America who try to comply with the law. They may adapt to new restrictions by ensuring they purchase products from legal sources and support responsible vaping practices. Others may seek alternative products, or find ways to continue vaping in response to regulations, for example by switching to DIY vape liquids, exploring illegal market options, or purchasing products from neighbouring countries with less stringent regulations.

The SNP consumer community in Latin America continues to advocate for access to vaping products as a harm reduction option for smokers, while adapting to the frequently evolving regulatory environment.

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GLOBAL STATE OF TOBACCO HARM REDUCTION 2024

A SITUATION REPORT

Section Three

EASTERN EUROPE AND CENTRAL ASIA

3

Report overview

The Global State of Tobacco Harm Reduction 2024: A situation report is a multi-component publication, grouped into two parts, ***Global perspectives*** and ***Regional and national insights.*** The extent to which SNP are replacing and substituting for combustible and risky oral tobacco products is the unifying theme.

Global perspectives uses the latest evidence and new data projections to report on the current global THR situation and its potential to rapidly reduce the burden of disease and mortality associated with risky tobacco use. Measuring changes in SNP uptake, policy and regulation, it considers how these factors interrelate to support or undermine progress.

Chapter One: The global smoking epidemic and the role of tobacco harm reduction
Chapter Two: The evidence for tobacco harm reduction
Chapter Three: Global progress in tobacco harm reduction
Chapter Four: Global regulation and control
Chapter Five: The challenges to tobacco harm reduction
Chapter Six: Conclusions

Regional and national insights considers the status of tobacco use and THR at the regional or national level. The document you are about to read focuses on **Eastern Europe and Central Asia**; an equivalent report for **Latin America** is available. Four countries that have enabled THR to drive down smoking rates – **Aotearoa New Zealand, Japan, Norway** and the **UK** – are also profiled.

GLOBAL STATE OF TOBACCO HARM REDUCTION 2024

A SITUATION REPORT

Section Three

Eastern Europe and Central Asia

Section Three
Eastern Europe and Central Asia

Lead author: Giorgi Mzhavanadze

Introduction

Previous GSTHR reports have documented the development of THR, and have therefore concentrated their focus in countries or regions where the approach has already begun to take root. But there remain significant areas of the world where - while SNP may be present - their potential for harm reduction is largely unrecognised or unknown. This section explores tobacco use, tobacco control and tobacco harm reduction in Eastern Europe and Central Asia (EECA).

representing a vibrant tapestry of intertwined histories, cultures, religions, and aspirations, the region is home to over 180 million people

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the orientation of these countries towards broader international alliances significantly shapes their policies

In this section our definition of the EECA region includes Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan. Representing a vibrant tapestry of intertwined histories, cultures, religions, and aspirations, the region is home to over 180 million people. While each nation has maintained its own unique identity, there is a significant commonality among them: a shared history as part of the Soviet Union, from which they emerged as independent states in the early 1990s. This relatively recent transition proclaimed a new era, marked by the challenges of market reforms and navigating post-Soviet identity and integration.

In this context, the orientation of these countries towards broader international alliances significantly shapes their policies. This includes those related to public health and tobacco control. Notably, Georgia, Moldova, and Ukraine have all pursued aspirations to join the European Union, aligning with Western political structures and market economies. This has influenced their tobacco control and taxation policies, which often reflect EU standards and frameworks to harmonise their legislation with European norms.

Conversely, Armenia, Belarus, Kazakhstan, and Kyrgyzstan have opted to join the Eurasian Economic Union (EAEU), seeking closer economic and political ties with Russia.

Table 1 **At a glance: EECA Countries**

Country	Surface area (1000 sq. km)	Population (million)	Official language	Majority religion	Life expectancy at birth (years)	Death rate (per 1000 people)	GDP (billion US$)	GDP per capita (US$)	Total tax and contribution rate (% of profit)
Armenia	29.7	2.8	Armenian	Christians	72.0	13.0	195.1	7018.1	22.6
Azerbaijan	86.6	10.1	Azerbaijani	Muslims	69.4	7.6	787.2	7762.1	40.7
Belarus	207.6	9.2	Belarussian, Russian	Christians	72.4	16.5	727.9	7888.3	53.3
Georgia	69.7	3.7	Georgian	Christians	71.7	15.2	247.8	6675.0	9.9
Kazakhstan	2724.9	19.6	Kazakh	Muslims	70.2	9.6	2255.0	11492.0	28.4
Kyrgyzstan	200.0	7.0	Kyrgyz, Russian	Muslims	71.9	5.8	115.4	1655.1	29.0
Moldova	33.9	2.5	Romanian	Christians	68.8	16.4	145.1	5714.4	38.7
Tajikistan	141.4	10.0	Tajik, Russian	Muslims	71.6	4.5	104.9	1054.2	67.3
Turkmenistan	488.1	6.4	Turkmen	Muslims	69.3	6.6	565.4	8792.5	N/A
Ukraine	603.6	38.0	Ukrainian	Christians	69.6	18.5	1605.0	4534.0	45.2
Uzbekistan	448.9	35.6	Uzbek	Muslims	70.9	5.0	803.9	2255.2	31.6

Source: World Bank[1], PEW Research Center[2]

Tobacco use

Tobacco use in the EECA region varies, but combustible cigarettes and regional products like nasvay are the most prevalent forms. Nasvay is a type of smokeless tobacco product (SLT) originating from Pakistan and Afghanistan. It is also referred to as nass, naswar, or niswar.[3] A moist, powdered tobacco, often mixed with ash or slaked lime and other flavouring agents, nasvay is placed under the tongue or between the gum and lip. It is particularly popular in Tajikistan and Uzbekistan.

The Soviet era left a lasting legacy on tobacco consumption patterns, with widespread access and use facilitated by state-controlled tobacco production and distribution. However, the collapse of the Soviet Union in the 1990s saw a drastic decline in both production and consumption, disrupted by transitional challenges and supply chain issues.[4,5] By the mid-1990s, this trend had reversed, as significant investments from global tobacco companies revitalised the industry in the region.[6]

Despite these developments, tobacco control and public health generally was not a priority for many post-Soviet states amid the economic and political instability of the period. Tobacco control laws and excise taxes on tobacco products were introduced only in the late 1990s or early 2000s, and were permissive compared to western European or American standards.

It was not until the late 2010s that comprehensive smoke-free policies and advertising bans were widely implemented. The absence of early legislative and taxation measures, along with insufficient investments in public health, led to a surge in both

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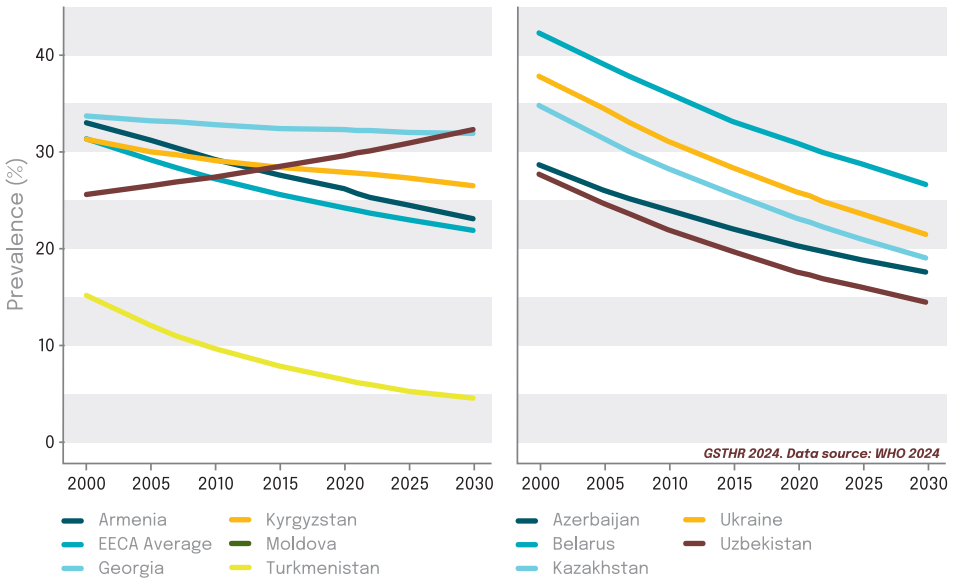
there are around 22.6 million tobacco users across the EECA

cigarette production and consumption during this period. These factors highlight the significant challenges and complexities of tobacco control in the region.[7]

Currently, tobacco use remains high across the region, though patterns of use differ markedly from country to country. As of 2022, approximately one third of adults in Georgia, Moldova, and Belarus were current tobacco users. In stark contrast, Turkmenistan reported a significantly lower prevalence of 5.6%. This lowers the regional average to 23.3%.[8] This equates to around 22.6 million tobacco users across EECA.

At 8 million people, Ukraine had the highest number of tobacco users in 2022, followed by Uzbekistan with 4.2 million, and Kazakhstan with 3 million. At the other end of the spectrum, Turkmenistan, Moldova, Armenia, and Georgia each had fewer than one million tobacco users. This is largely attributable to their smaller population sizes.

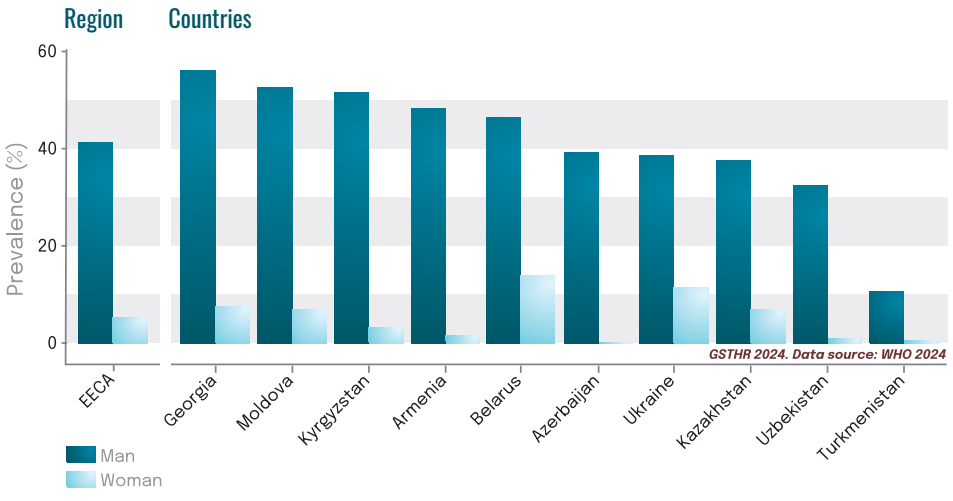
Estimates of current tobacco use prevalence in the EECA



Source: WHO Global Health Observatory[9]
Notes:
1) 'Current' tobacco use in these data refers to both daily and occasional use of tobacco products at the time when the survey was conducted.
2) The category of tobacco products includes cigarettes, pipes, cigars, waterpipes, heated tobacco products and smokeless tobacco products. This category does not cover nicotine vaping products.
3) The data presented here have been standardised by the WHO for age. This technique adjusts the prevalence rates to match the 'WHO standard population', allowing for comparison across different countries, irrespective of their age structure.
4) Data for Tajikistan are unavailable.
For more details, please refer to the WHO Global Health Observatory.[10]

The region also exhibits significant gender disparities in tobacco use, showing an alarmingly high prevalence among men. An average of 41.2% of men were current tobacco users in 2022, compared to just 5.3% of women. These gender differences are particularly pronounced in some countries, where tobacco use rates among men are exceptionally high. In Georgia, for instance, 55.9% of the male population were current tobacco users in 2022, followed closely by Moldova at 52.4%, Kyrgyzstan at 51.3%, Armenia at 48.2%, and Belarus at 46.3%. All of these countries rank within the top 25 globally for tobacco use among men, with Georgia occupying the 5th position.

Estimates of current tobacco use prevalence by gender in EECA (2022)



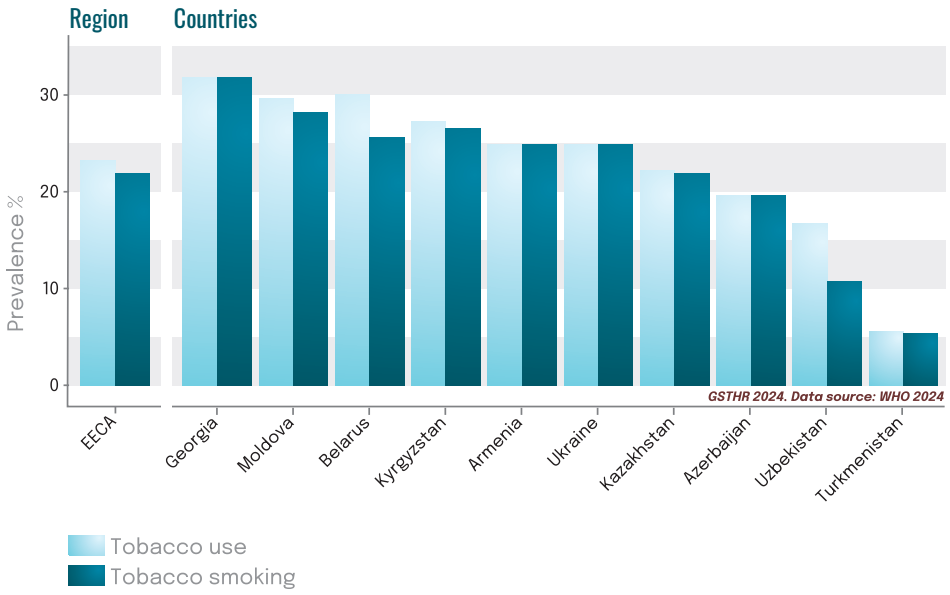
Source: WHO Global Health Observatory[11]
Note: EECA average is estimated as a simple average of all countries in the region for which data exist

The same data shows that the regional average for current tobacco use in EECA is projected to decline from 31% in 2000 to 21.5% in 2030, marking a 9.5 percentage point decrease. Belarus, Kazakhstan, Ukraine and Uzbekistan are projected to experience some of the most substantial declines in tobacco use within the region. In contrast, Georgia's tobacco use rates are projected to remain relatively unchanged in the period up to 2030, only decreasing by 1.8 percentage points. Uniquely within the region – and indeed, as a rare example globally – Moldova is actually expected to see an increase in tobacco use prevalence, from 25.2% in 2000 to 31.9% by 2030.

In Armenia and Belarus, the decline in tobacco use is expected to be more significant among men than women. Notably, Georgia is the only country where the prevalence of tobacco use among women is predicted to rise, suggesting the potential for a gender-specific cultural shift in tobacco consumption.

Tobacco smoking is the leading form of tobacco consumption in EECA, albeit with distinct variations across countries. In 2022, the region recorded an average smoking rate of 23.3%, accounting for 20.7 million current smokers. Projections indicate a decrease in these rates, from 28.2% in 2000 to an expected 20.5% by 2030.

Estimates of current tobacco use and tobacco smoking in EECA (2022)



Source: WHO Global Health Observatory[12]

In countries like Uzbekistan, the prevalence of current smoking (10.7%) is significantly lower than the overall tobacco use rate (16.7%). This underscores the notable impact of SLT, especially nasvay, on the region's patterns of tobacco consumption. According to the most recent international surveys on adult tobacco use, the prevalence of SLT is particularly high in Tajikistan (10.3%) and Uzbekistan (9.9%). This is likely to be rooted in the traditional use of nasvay and its affordability relative to cigarettes.[13]

Nasvay is predominantly used by men. About one in five adult men in Tajikistan and Uzbekistan use nasvay - a rate that exceeds male smoking prevalence. With the exception of Kyrgyzstan (5.2%) and Kazakhstan (1.4%), other countries in the EECA region report negligible rates of SLT use.

the region exhibits significant gender disparities in tobacco use, showing an alarmingly high prevalence among men

•

the regional average for current tobacco use in EECA is projected to decline from 31% in 2000 to 21.5% in 2030

•

the average smoking rate in the EECA region is 23.3%, accounting for 20.7 million current smokers

•

smokeless tobacco product, especially nasvay, has a notable impact on the region's pattern of tobacco consumption

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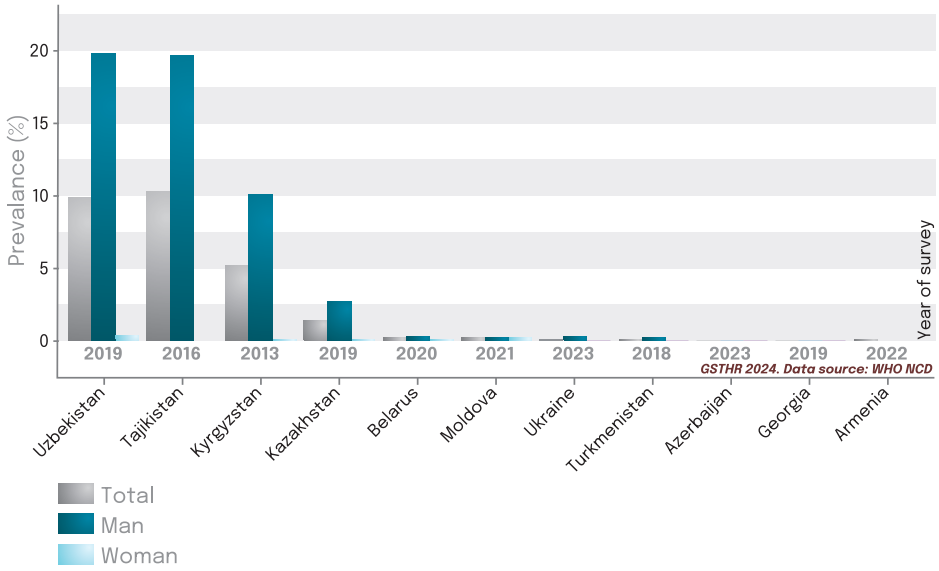
one in five adult men in Tajikistan and Uzbekistan use nasvay

Current use prevalence of SLT in EECA according to the most recent survey



Source: Authors' compilation based on open-source data (WHO NCD Microdata Repository[14], Demographic Health Surveys[15], local household budget surveys, local tobacco use surveys)

tobacco use and second-hand smoking contribute to a considerable proportion of all deaths

•

drawing definitive conclusions about the health impacts of nasvay is challenging

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the relative risks of nasvay are not well researched compared to snus, US chewing tobacco, or Asian smokeless tobaccos

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the economic consequences of tobacco use are profound in EECA

The burden of tobacco use

The burden of tobacco use in the EECA region is significant, with elevated mortality, disease, and economic costs due to high rates of tobacco consumption. Drawing from the Global Burden of Disease (GBD) 2019 data, tobacco use and second-hand smoking contribute to a considerable proportion of all deaths, ranging from 12% in Tajikistan to 20% in Armenia and Azerbaijan, with the EECA average standing at 17%. Smoking is the primary contributor to this health burden.[16]

The average death rate from tobacco use and second-hand smoke in the EECA region is 171 deaths per 100,000 people. However, there is a noticeable disparity among countries: Belarus, Georgia, and Ukraine report significantly higher death tolls, whereas Tajikistan and Uzbekistan, which have the lowest smoking rates, report fewer than 100 deaths per 100,000. Such variance highlights differences in health infrastructure, public health initiatives and tobacco use patterns.

As noted, consumption of tobacco in both Tajikistan and Uzbekistan is characterised by high use of nasvay. This might indicate potential public health benefits stemming from the substitution of combustible cigarettes with this historical type of oral tobacco. However, this association might be influenced by the quality of tobacco mortality data. Furthermore, the relative risks of nasvay are not well researched compared to snus, US chewing tobacco, or the more dangerous types of Asian smokeless tobacco. This is complicated by the nature of the product, as it is predominantly produced by cottage industries or homemade, with ingredients being locally grown.[17] There are more than 50 different varieties of nasvay in Central Asia. Therefore, drawing definitive conclusions about the health impacts of the product is challenging.

Over the last two decades, most countries in the region have seen a decrease in the percentage of deaths attributable to tobacco. Belarus and Armenia experienced the most notable reductions between 2000 and 2019. Conversely, however, Tajikistan, Uzbekistan, Kyrgyzstan, and Azerbaijan have witnessed an increase in the share of tobacco-attributable deaths.

Table 2 **Annual burden of mortality attributable to tobacco in EECA, 2019**

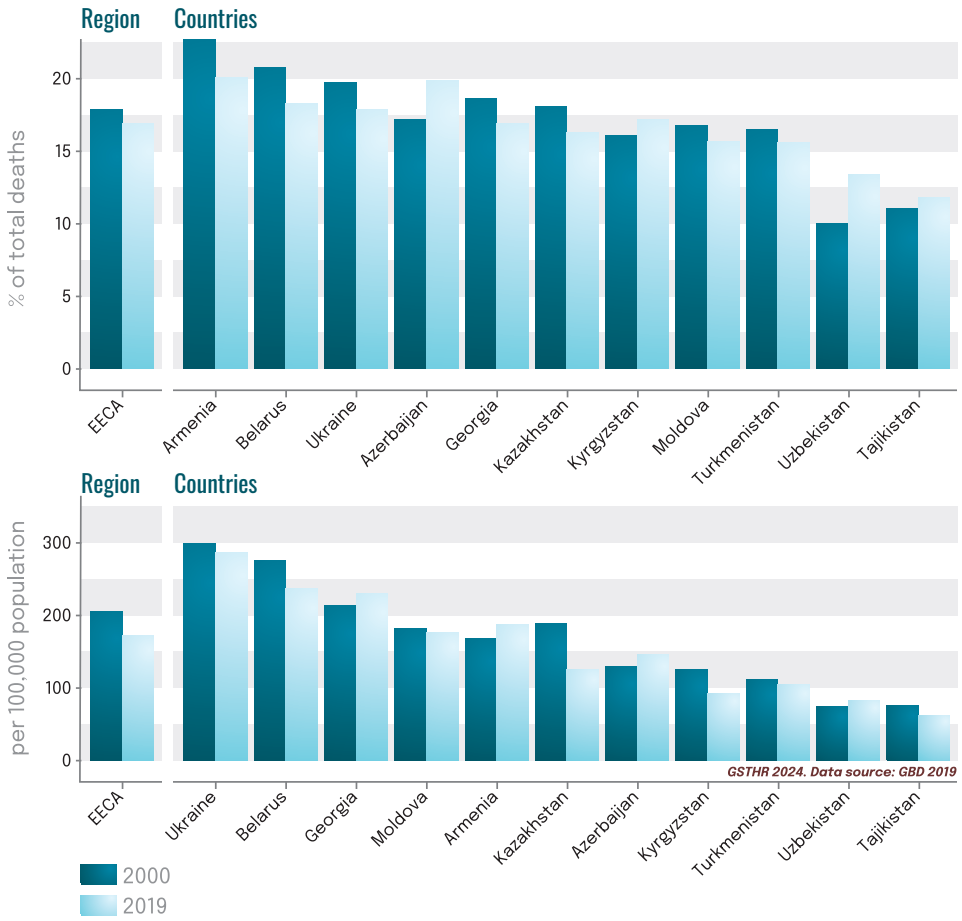
Country	All deaths	Deaths attributable to all risk factors	Deaths attributable to tobacco	Deaths attributable to smoking	Deaths attributable to all risk factors (% of total deaths)	Deaths attributable to tobacco (% of total deaths)	Deaths attributable to smoking (% of total deaths)	Death rate attributable to tobacco (per 100,000 population)
Armenia	27978	19159	5644	4864	69%	20%	17%	187
Azerbaijan	75130	54925	15043	12497	73%	20%	17%	146
Belarus	121765	89120	22377	20509	73%	18%	17%	236
Georgia	49417	36031	8389	7172	73%	17%	15%	229
Kazakhstan	139472	93994	22901	20164	67%	16%	15%	125
Kyrgyzstan	34678	23597	5996	5025	68%	17%	15%	92
Moldova	41000	29818	6485	5921	73%	16%	14%	176
Tajikistan	48706	31986	5806	4634	66%	12%	10%	61
Turkmenistan	33623	24265	5263	4044	72%	16%	12%	104
Ukraine	698663	511883	125760	113389	73%	18%	16%	286
Uzbekistan	203586	145843	27447	22193	72%	14%	11%	82
EECA	1474017	1060621	251112	220413	72%	17%	15%	171

Source: GBD 2019[18]

The overall decline in tobacco-attributable death rates in EECA from 2000 to 2019 may indicate advances in tobacco control efforts, or improvements in the diagnosis and treatment of tobacco-related diseases across the region, or a combination of both.

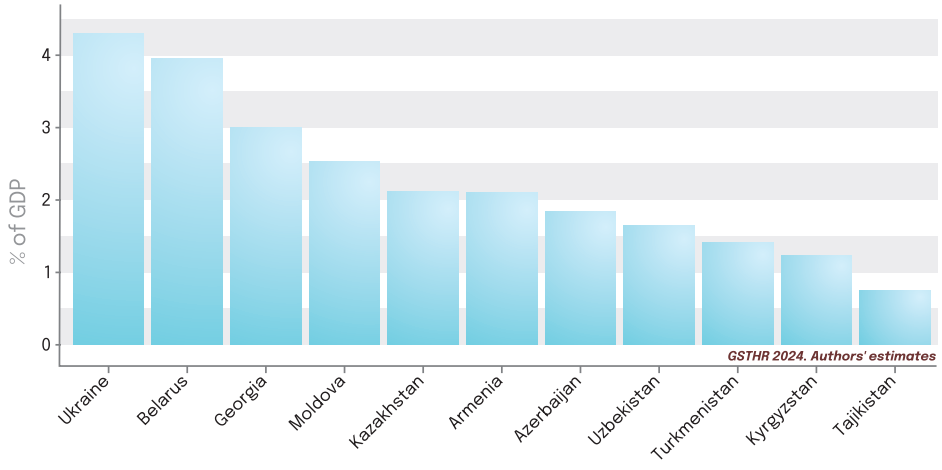
The economic consequences of tobacco use, including both direct healthcare expenditure and indirect losses in productivity due to morbidity and mortality, are profound in EECA. Ukraine faces the most severe economic impact, where the estimated costs exceed 4% of its GDP. Tajikistan is the least affected, with tobacco-related costs accounting for only 0.8% of its GDP. As well as exacerbating the pressure on these countries' economies, these costs impact their welfare and development.

Deaths attributable to tobacco in EECA



Source: GBD 2019[19]

Economic cost of tobaco use in EECA (2019)



Source: Authors' estimates based on Tobacconomics[20] and World Bank[21] data
Note: To estimate the economic burden of tobacco use, the GDP figures from 2019, expressed in local currency, are used

Tobacco control policies

At least on paper, countries in the EECA region have demonstrated a strong commitment to traditional tobacco control by ratifying or accepting the WHO FCTC. The majority of these countries joined the FCTC in the mid-2000s, with Turkmenistan, Uzbekistan, and Tajikistan coming on board in the early 2010s.[22] In addition, Georgia and Armenia have underscored their commitment by joining the FCTC 2030 project, which aims to intensify tobacco control efforts.[23]

Reflecting this commitment, the last decade has seen the implementation of comprehensive tobacco control laws across the region, closely aligned with the FCTC's requirements. These laws have introduced key legislative changes,

including the expansion of smoke-free environments, the introduction of pictorial health warnings to enhance visibility, and tightened restrictions on the advertising and promotion of tobacco and nicotine products.

Smoke-free policies have been rigorously enforced in Kyrgyzstan, Moldova, Tajikistan, Turkmenistan and Ukraine, covering a wide range of public and outdoor spaces. Armenia, Georgia, and Kazakhstan have also implemented indoor smoking bans (albeit with some specific exemptions), while Uzbekistan has recently specified smoke-free places in legislation, enhancing the comprehensiveness of its policies.

Azerbaijan and Belarus have less rigorous smoke-free policies in comparison to other states in the EECA region. In these countries, smoking is permissible in designated areas across all indoor public places, workplaces, and certain modes of transport, with specific exclusions like healthcare and educational facilities, cultural centres, taxis, and airplanes, where smoking remains strictly prohibited.

Table 3 The count of the implemented measures reported under respective WHO FCTC articles in EECA, 2023

Article number	5	5.3	6	8	9	10	11	12	13	14	15	16	17	18	19	20	Average score
Maximum count	*4*	*2*	*3*	*11*	*3*	*4*	*8*	*12*	*10*	*20*	*13*	*11*	*3*	*4*	*7*	*19*	*10*
Turkmenistan	4	2	3	11	3	3	7	11	9	15	10	11			5	15	8.9
Moldova	4	2	3	11	3	4	7	9	8	10	11	11	1	4	5	14	8.7
Kyrgyzstan	4	2	3	10	1	4	8	11	7	18	11	10	1	3	6	14	8.6
Belarus	3	2	3	8	3	4	7	10	6	16	12	11			2	14	8.2
Georgia	4	1	3	11	3	2	8	11	10	10	7	11			1	13	7.7
Armenia	3	0	3	11	3	4	6	12	0	14	9	11			4	14	7.3
Ukraine	2	1	2	11	3	4	8	6	6	4	10	10			3	11	6.9
Uzbekistan	4	2	1	11	1	0	8	9	3	8	11	10	1	4	1	16	6.3
Kazakhstan	1	1	0	9	3	2	8	8	9	12	2	11			2	13	6.0
Azerbaijan	1	1	2	6	1	4	5	9	0	6	12	8	0	4	2	7	5.2
Tajikistan	0	2	3	2	0	0	8	11	2	12	9	4			1	0	4.4

Source: 2023 Global Progress Report on Implementation of the WHO FCTC[24]
Note: Average score is estimated as a simple average of scores in article numbers standardised according to maximal count.

The region has taken a strong stance against tobacco advertising, promotion, and sponsorship. Armenia, Azerbaijan, Kyrgyzstan, Moldova, and Ukraine have all enacted comprehensive bans. Georgia, Kazakhstan, Tajikistan, Turkmenistan, and Uzbekistan enforce strict restrictions on advertising. Belarus's regulations remain the least restrictive. Regulations concerning cigarette content, flavours and disclosures vary, with some countries imposing strict controls, while others maintain less stringent regulations. Generally, however, the region exhibits uniformity in sale restrictions, banning tobacco sales in certain venues and vending machines, although regulations around internet sales and retail licensing requirements differ across countries.

There are variations in tobacco packaging and labelling requirements across the region as well, with several countries mandating pictorial health warnings. Regulatory updates are anticipated in the near future to further align tobacco packaging and labelling with WHO FCTC standards. These changes are expected to include the introduction of combined picture and text warnings, expanding the coverage of warning labels to at least 65% of the packaging in Armenia, Turkmenistan, Ukraine, and Uzbekistan. Additionally, Armenia and Georgia are moving forward with plans to implement plain packaging requirements.

Table 4 **Combustible tobacco products regulatory provisions in the EECA (as of 31 December, 2023)**

Country	Comprehensive amendments to TCL	Selling via internet	Selling via vending machine	Advertising and promotion	Minimum age restrictions on sale	Smoke-free	Flavours allowed	Additives regulated	Health warnings on packaging (sticks/device)
Armenia	2021	Allowed	Banned	Some restrictions	18+	Smoking is restricted	Some	Yes	Yes, text-only, 30%
Azerbaijan	2018	Allowed	Banned	Banned	18+	Smoking is restricted	Yes	No	Yes, text-only, 30%
Belarus	2019	Banned	Banned	Some restrictions	18+	Smoking is restricted	Yes	Yes	Yes, pictorial/ text, 50%
Georgia	2018	Banned	Banned	Some restrictions	18+	Smoking is restricted	Yes	No	Yes, pictorial/ text, 65%
Kazakhstan	2020	Banned	Banned	Some restrictions	21+	Smoking is restricted	Some	Yes	Yes, pictorial/ text, 65%
Kyrgyzstan	2021	Allowed	Banned	Banned	18+	Smoking is restricted	Yes	Yes	Yes, pictorial/ text, 65%
Moldova	2015, 2019	Banned	Banned	Banned	18+	100% smoke free	Yes	Yes	Yes, pictorial/ text, 65%
Tajikistan	2018	Banned	Banned	Banned	18+	Smoking is restricted	Some	Yes	Yes, pictorial/ text, 75%
Turkmenistan	2014	Banned	Banned	Banned	21+	100% smoke free	Yes	No	Yes, text-only, 30%
Ukraine	2012, 2022	Allowed	Banned	Banned	18+	Smoking is restricted	Yes	Yes	Yes, pictorial/ text, 50%
Uzbekistan	2023	Banned	Banned	Some restrictions	21+	Smoking is restricted	Some	Yes	Yes, pictorial/ text, 40%

Source: Campaign for Tobacco-Free Kids. Tobacco Control Laws,[25] National Tobacco Control Laws

the last decade has seen the implementation of comprehensive tobacco control laws across the region, closely aligned with the FCTC's requirements

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the region has taken a strong stance against tobacco advertising, promotion, and sponsorship

•

the recent implementation of comprehensive tobacco control laws has also seen a broadening of the regulatory scope to include SNP

It is important to mention that the recent implementation of comprehensive tobacco control laws across the region has also seen a broadening of the regulatory scope to include SNP such as nicotine vapes and HTP. In the EECA region, these products have often become subject to regulations (and taxation) similar to those applied to traditional tobacco products (see below).

Use of safer nicotine products

The strong preference for traditional combustible cigarettes, and the particular affinity of some Central Asian nations for SLT, especially among men, can present challenges for the uptake of SNP among existing nicotine users in the region. However, international tobacco use surveys conducted in the mid-2010s indicated the presence of nicotine vaping products in the market. Moreover, according to market data from Euromonitor International, the first signs of HTP use in the EECA region were observed in Ukraine and Kazakhstan in 2016 and 2017, respectively.[26] The market for HTP grew in subsequent years, reaching other countries in the region after 2019.

This attracted the attention of policymakers, resulting in the inclusion of these products in tobacco control legislation. The strict regulatory environment for SNP marks a significant shift from the previously lax or non-existent tobacco control regulations in the EECA region. Nevertheless, global trends towards consumer uptake of SNP have now penetrated the region, signalling a potential change in smoking behaviours, at least in certain countries.

Belarus stands out with the highest current vaping prevalence in the region at 6.1%, a significant figure compared to other countries. Georgia and Ukraine follow, with current vaping rates of 3.9% and 3.3% respectively. In contrast, countries like Armenia, Azerbaijan, Moldova, and Uzbekistan report negligible vaping rates.

the strict regulatory environment for SNP marks a significant shift from previously lax or non-existent tobacco control regulations in EECA

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Belarus stands out with the highest current vaping prevalence in the region at 6.1%

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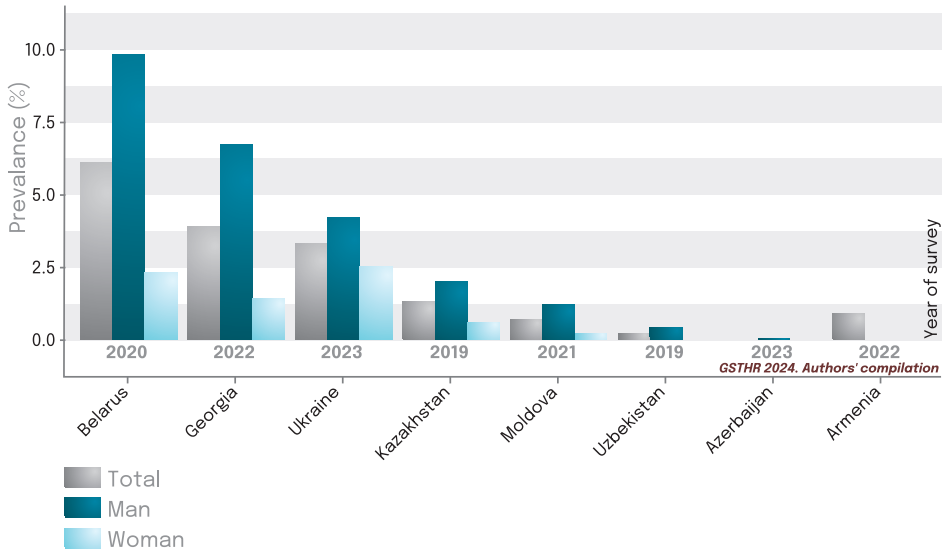
Armenia, Azerbaijan, Moldova and Uzbekistan report negligible vaping rates

Current vaping prevalence according to the most recent survey in EECA



Source: Authors' compilation based on open-source data (WHO NCD Microdata Repository[27], Demographic Health Surveys[28], local household budget surveys, local tobacco use surveys)

The awareness and popularity of nicotine vaping products have likely increased in the region as regulations and taxation evolved. Consequently, the timing of the surveys could affect the data presented in the figure above. Countries surveyed earlier might now, in 2024, have significantly higher current vaping prevalence.

The increase in vaping prevalence in Belarus and Georgia was associated with declining smoking rates. In Kazakhstan, this decline in smoking occurred against a backdrop of stable e-cigarette uptake. For other countries in the region, existing data sources use inconsistent methodologies, making it difficult to estimate smoking and vaping trends accurately.

awareness and popularity of nicotine vaping products have likely increased as regulations and taxation evolved

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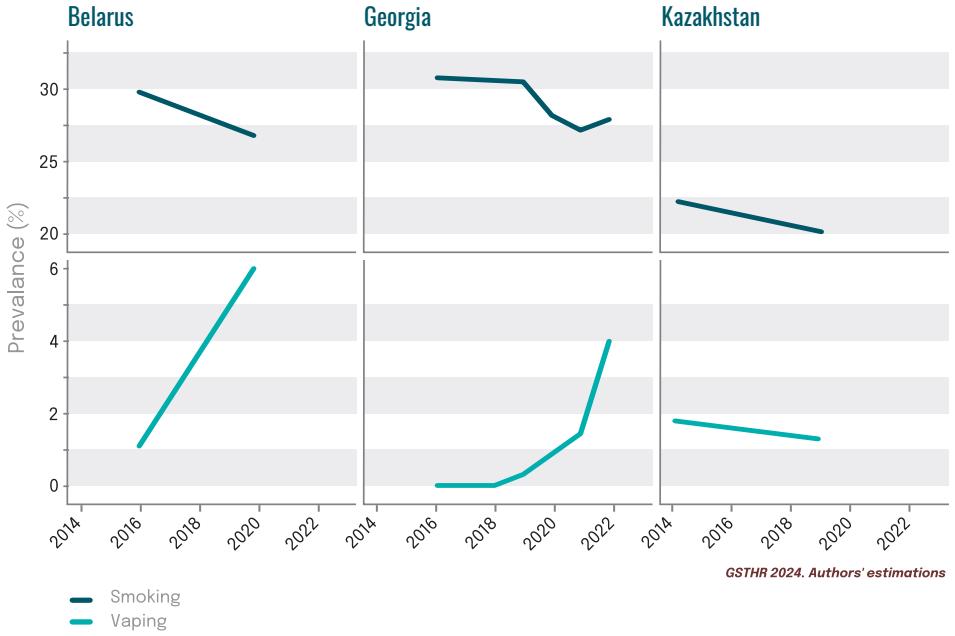
the increase in vaping prevalence in Belarus and Georgia was associated with declining smoking rates

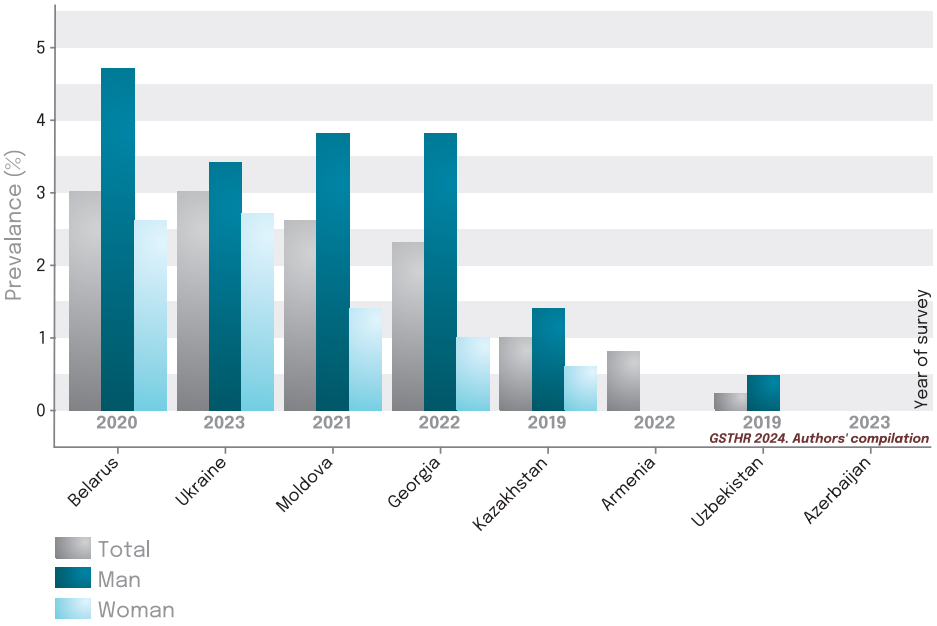
Current smoking and vaping prevalence



Source: Authors' estimations based on open-source data (WHO NCD Microdata Repository[29], local tobacco use surveys)
Note: An extrapolation method was applied to estimate the prevalence for years for which data was not available.

The use of HTP mostly follows the trends observed in vaping. Once again, Belarus (3%), Ukraine (3%) and Georgia (2.3%) show a moderate but noteworthy presence of these products and their use. Moldova deviates from this pattern, with HTP use at 2.6%, while current vaping prevalence stands at only 0.7%. Similar to the low vaping prevalence, Armenia, Azerbaijan, and Uzbekistan exhibit low rates of HTP use.

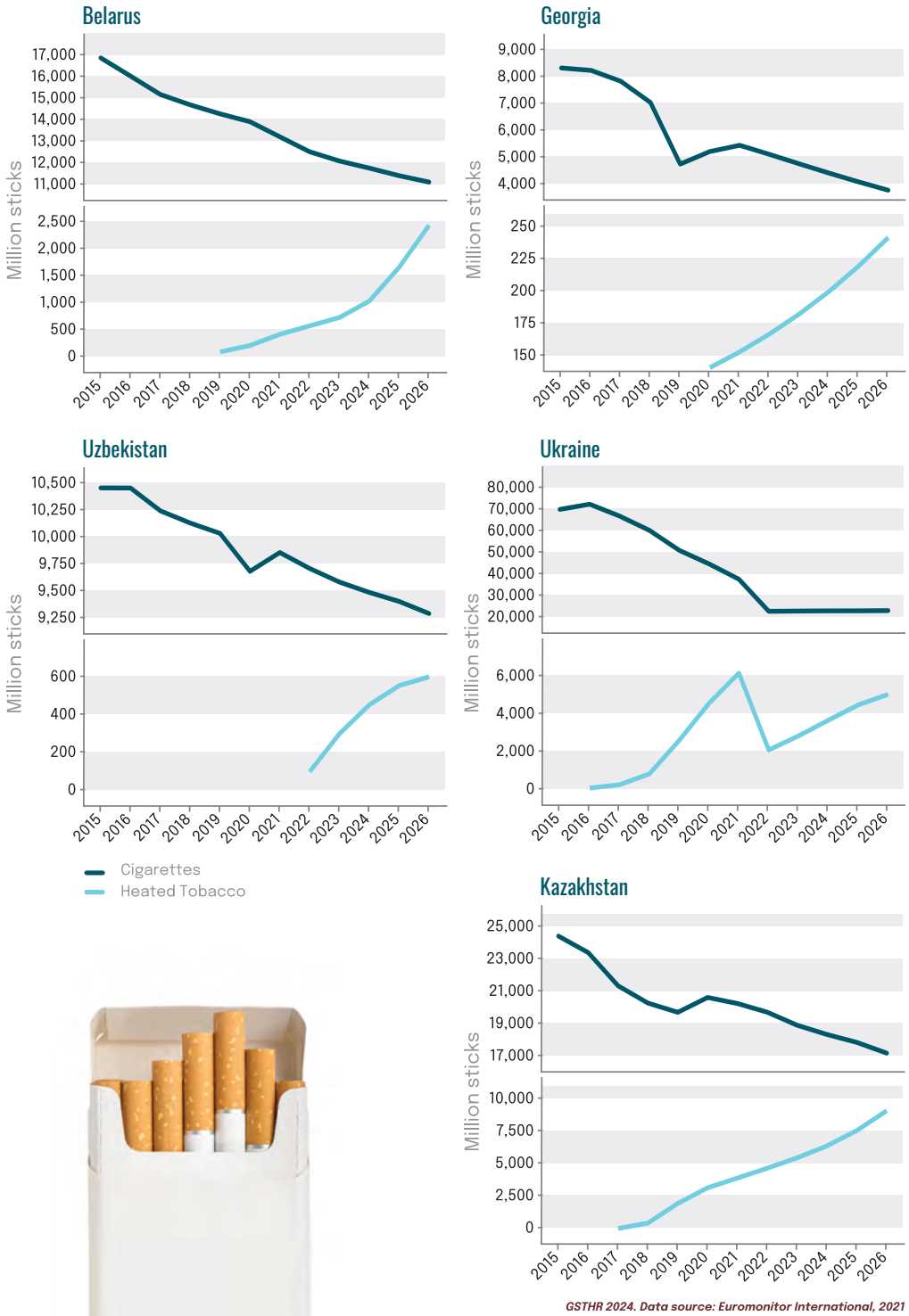
Current use prevalence of HTP according to the most recent survey in EECA



Source: Authors' compilation based on open-source data (WHO NCD Microdata Repository[30], Demographic Health Surveys[31], local household budget surveys, local tobacco use surveys)

Market data from Euromonitor International indicate an increase in the consumption of HTP across the EECA region, as reflected in analyses of countries where data are available.[32] This trend is particularly noteworthy in Belarus and Kazakhstan, with projections suggesting that HTP may account for a third of all tobacco product sales in Kazakhstan by 2026. Meanwhile, Georgia and Uzbekistan are experiencing a slower uptake in HTP use. Data from Ukraine show high volatility around 2022. This is likely reflective of the impact of the ongoing war on official tobacco sales data, and an increase in illicit activities.[33]

Retail volume of cigarettes and HTP in EECA



GSTHR 2024. Data source: Euromonitor International, 2021

Source: Euromonitor International, 2021

Belarus (3%), Ukraine (3%) and Georgia (2.3%) show a moderate but noteworthy presence of HTP use

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market research from Euromonitor International indicates an uptrend in the consumption of HTP across EECA

•

data from Ukraine show high volatility around 2022, likely reflective of the impact of the ongoing war on official tobacco sales data and an increase in illicit activities

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the high rates of nasvay use in the region mean safer alternatives like snus or nicotine pouches could offer a valuable harm reduction strategy

•

transitioning to products perceived as 'foreign' may encounter resistance

•

the relative cost of safer alternatives like snus or nicotine pouches compared to cigarettes would play a crucial role in encouraging widespread adoption

Other types of SNP, such as snus or nicotine pouches, are not present in the region, at least in countries where market data is available. The only exception is Ukraine, where a small quantity of nicotine pouches was sold in 2023, totalling 17.3 million units with a retail value of $4.8 million.[34]

Considering the high rates of nasvay use in some countries of the EECA region (especially Tajikistan and Uzbekistan), access to safer alternatives like snus or nicotine pouches could offer a valuable harm reduction strategy. Given their similar methods of use to nasvay, and significantly lower health risks, snus and nicotine pouches could serve as effective substitutes. However, this strategy would hinge on broad cultural acceptance, and transitioning to products perceived as 'foreign' may encounter resistance.

Furthermore, with the exception of nasvay, all forms of SLT are banned in Tajikistan and Uzbekistan, complicating the introduction of alternatives. Economic factors, such as the relative cost of safer alternatives like snus or nicotine pouches compared to cigarettes, would also play a crucial role in encouraging widespread adoption. Under the current circumstances, the feasibility of this harm reduction approach appears limited.

the regulation of SNP demonstrates countries' alignment with the WHO's current interpretation of the FCTC and institutional messaging with regard to these products

•

Azerbaijan and Georgia were the first in the region to take action to regulate SNP

•

Turkmenistan stands alone in the region for enacting a complete ban on the sale and use of e-cigarettes

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the country aims to achieve tobacco- and nicotine-free status by 2025

•

these moves are indicative of a growing anti-vaping sentiment in the region

Regulation of SNP

Nicotine vaping products and HTP

The regulation of SNP reflects the evolving landscape of tobacco control in the EECA region. It also demonstrates countries' alignment with the WHO's current interpretation of the Framework Convention on Tobacco Control and institutional messaging with regard to these products.

Azerbaijan and Georgia were the first in the region to take action to regulate SNP. They extended regulations on sales, use, advertising, and sponsorship of nicotine vaping products and HTP to match those for traditional tobacco products, through comprehensive tobacco control laws enacted in 2017 and 2018, respectively.[35,36] Belarus and Moldova introduced similar regulations in 2019, followed by Armenia and Kazakhstan in 2020.[37,38,39,40,41,42]

Kyrgyzstan and Tajikistan made similar amendments to their tobacco control laws, in 2021 and 2022 respectively.[43,44] Ukraine, which had not regulated e-cigarettes and HTP until 2022, implemented new provisions in July 2023, extending smoking bans to include the use of these products, alongside prohibitions on their advertising, promotion, and sponsorship, and prohibiting the sale of flavoured e-liquids.[45,46] Uzbekistan broadened its tobacco control legislation in August 2023 in order to include regulations for nicotine vaping products and HTP.[47]

Turkmenistan stands alone in the region for enacting a complete ban on the sale and use of e-cigarettes with no clear information regarding the regulation of HTP.[48,49,50] This strict approach aligns with the country's comprehensive strategy to regulate all tobacco and nicotine delivery products, as it aims to achieve tobacco- and nicotine-free status by 2025.

Additionally, in 2023, Tajikistan banned the import, export, production, storage and trade of disposable e-cigarettes.[51] In April 2024, Kazakhstan banned the sale, distribution and advertisement of e-cigarettes and e-liquids.[52] Kyrgyzstan is similarly exploring a complete ban on vaping products.[53] These moves are indicative of a growing anti-vaping sentiment in the region.

Table 5 **Nicotine vaping products regulatory provisions in EECA (as of 31 December, 2023)**

Country	Defined in the law	Selling e-cigarettes	Selling via internet	Selling via vending machine	Legal to use	Advertising and promotion	Minimum age restrictions on sale	Restrictions on vaping in public places	Flavours allowed	Additives regulated	Excise tax on e-cigarettes (e-liquid/ device)	Max amount of nicotine in e-liquids	Health warnings on packaging
Armenia	Yes	Allowed	Allowed	Banned	Yes	Some restrictions	18+	Yes	Most flavours are allowed	Yes	Yes / No	Yes, 20 mg/g	Yes, text--only, 30%
Azerbaijan	No	Allowed	Allowed	Banned	Yes	Banned	18+	Yes	Most flavours are allowed	No	Yes / Yes	No	No
Belarus	Yes	Allowed	Banned[1]	Banned	Yes	Some restrictions	18 +	Yes	Most flavours are allowed	No	Yes / Yes	No	No
Georgia	Yes	Allowed	Banned[2]	Banned	Yes	Some restrictions	18+	Yes	Most flavours are allowed	No	Yes / No	No	No[3]
Kazakhstan[4]	Yes	Banned	Not applicable	Not applicable	Yes	Not applicable	Not applicable	Yes	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Kyrgyzstan	Yes	Allowed	Allowed	Banned	Yes	Banned	18+	Yes	Most flavours are allowed	No	Yes / Yes	Yes, 20 mg/ml	Yes, pictorial/ text, 65%
Moldova	Yes	Allowed	Banned	Banned	Yes	Banned	18+	Yes	Most flavours are allowed	Yes	Yes / No	Yes, 20 mg/ml	Yes, text--only, 30%
Tajikistan	Yes	Allowed	Banned	Banned	Yes	Banned	18+	Yes	No information	Yes	Yes / Yes	No information	Yes, pictorial/ text, 75%
Turkmenistan	Yes	Banned	Not applicable	Not applicable	Banned	Banned	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Ukraine	Yes	Allowed	Allowed	Banned	Yes	Banned	18+	Yes	Only tobacco flavours or no flavours	Yes	Yes / No	Yes, 20 mg/ml	Yes, text--only, 30%
Uzbekistan	Yes	Allowed	Banned	Banned	Yes	Some restrictions	21+	Yes	Most flavours are allowed	Yes	Yes / No	Yes, 20 mg/ml	Yes, pictorial/ text, 65%*

Source: Tobacco in Australia,[54] Campaign for Tobacco-Free Kids. Tobacco Control Laws,[55] Global taxation of ENDS and ENNDS: a cross-country evaluation and Recommendations for Taxation,[56] WHO FCTC[57], National Tobacco Control Laws

Notes:

1. Selling e-cigarette devices (‚electronic smoking systems') is exempted from the ban on internet sales.
2. The sale of nicotine-free vaping products is allowed via the internet.
3. The law requires an 'information sheet' to be placed inside the packaging of e-cigarettes.
4. The regulatory provisions for Kazakhstan have been updated with recent changes as of April 2024.
5. Production, import, storage, whole and retail sale of disposable e-cigarettes has been banned since March 2023.

Table 6 **HTP regulatory provisions in EECA (as of 31 December, 2023)**

Country	Defined in the law (sticks/ device)	Selling HTP (sticks/device)	Selling via internet (sticks/device)	Selling via vending machine (sticks/device)	Legal to use	Advertising and promotion (sticks/device)	Minimum age restrictions on sale	Restrictions on use in public places	Flavours allowed	Taxes on HTP sticks (sticks/ device)	Health warnings on packaging (sticks/device)	Additives regulated
Armenia	No / No	Allowed / Allowed	Allowed / Allowed	Banned / Banned	Yes	Some restrictions / No information	Yes 18+	Yes	Most flavours are allowed	Yes / No	Yes, text-only, 30% / No information	Yes
Azerbaijan	No / No	Allowed / Allowed	Allowed / Allowed	Banned / Banned	Yes	Banned / No information	Yes 18+	Yes	Most flavours are allowed	Yes / No	Yes, text-only, 30% / No information	No
Belarus	No / No	Allowed / Allowed	Banned / Allowed	Banned / Banned	Yes	Some restrictions / Allowed	Yes 18+	Yes	Most flavours are allowed	Yes / Yes	No[1] / No	No
Georgia	Yes / Yes	Allowed / Allowed	Banned / Some restrictions	Banned / Banned	Yes	Some restrictions / Some restrictions	Yes 18+	Yes	Most flavours are allowed	Yes / No	Yes[2] / No	No
Kazakhstan	No / No	Allowed / Allowed	Banned / Banned	Banned / Banned	Yes	Some restrictions / Some restrictions	Yes 21+	Yes	Most flavours are allowed	Yes / No	Yes, pictorial/ text, 65% / No	Yes
Kyrgyzstan	Yes / Yes	Allowed / Allowed	Allowed / Allowed	Banned / Banned	Yes	Banned / Banned	Yes 18+	Yes	Most flavours are allowed	Yes / No	Yes, pictorial/ text, 65% / Yes, pictorial/text, 65%	Yes
Moldova	Yes / Yes	Allowed / Allowed	Banned / Banned	Banned / Banned	Yes	Banned / Banned	Yes 18+	Yes	Most flavours are allowed	Yes / No	Yes, text-only, 30%/ No	No
Tajikistan	Yes / Yes	Allowed / Allowed	Banned / Banned	Banned / Banned	Yes	Banned / Banned	Yes 18+	Yes	No information	Yes / No	Yes, pictorial/ text, 75% / No	Yes
Turkmenistan	No information[3]											
Ukraine	Yes / Yes	Allowed / Allowed	Allowed / Allowed	Banned / Banned	Yes	Banned / Banned	Yes 18+	Yes	Most flavours are allowed	Yes / No	Yes, text-only, 30% / No	Yes
Uzbekistan	Yes / Yes	Allowed / Allowed	Banned / Banned	Banned / Banned	Yes	Some restrictions / Some restrictions	Yes 21+	Yes	Only tobacco, mint and menthol flavours	Yes / No	Yes, pictorial/ text, 65% / yes, pictorial/text, 65%	Yes

Source: Campaign for Tobacco-Free Kids. Tobacco Control Laws,[58] National Tobacco Control Laws, WHO FCTC Global Progress Report 2023[59], WHO FCTC[60], Campaign for Tobacco-Free Kids. HEATED TOBACCO PRODUCTS Global Regulation[61]

Notes:

1. A warning about the dangers of consumption of tobacco products must be included (as an insert) in a package of 'smokeless tobacco products', which, by definition under the law, includes HTP sticks.
2. Beginning on January 1, 2025, the law will require both text and picture health warnings for HTP sticks.
3. The existing sources do not provide definitive information on whether the sale and use of HTP is banned in Turkmenistan.[62,63,64]

All countries permit the sale and use of HTP, although legislative approaches differ. Some have incorporated explicit definitions of HTP sticks and devices into their laws, amending tobacco control regulations accordingly. Others categorise HTP as tobacco products, and consider their use as a form of smoking. Regardless of these variations, in practice, HTP sticks and their use are equated with combustible cigarettes and smoking throughout the EECA region.

At the time of writing, therefore, all EECA countries enforce consistent laws regarding smoke-free areas, sales restrictions, and the advertising and promotion of nicotine vaping products and HTP, similar to those applied to combustible cigarettes. However, some differences emerge, mainly in packaging and labelling requirements, with some countries adopting more tolerant approaches for these products.

all countries permit the sale and use of HTP, although legislative approaches differ

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in practice, HTP sticks and their use are equated with combustible cigarettes and smoking throughout the EECA region

Smokeless tobacco (SLT) and oral safer nicotine products

EECA countries have adopted various approaches to regulate SLT, including oral categories of SNP like Swedish-style snus and nicotine pouches. Moldova was among the first to enforce strict regulations by banning the production and sale of all SLT products along with snus in 2007. However, nicotine pouches are exempt from this ban, as they are classified under tobacco legislation as nicotine-containing products.[65] In 2015, Belarus banned the manufacture, storage, and sale of SLT products meant for sucking and chewing, although it allows tobacco-free SLT products.[66]

Some Central Asian countries have taken drastic steps in regulating SLT. Turkmenistan began by banning the use of nasvay in public places in 2004, eventually prohibiting its production, import, sale, and consumption by 2008.[67] This comprehensive ban extended to all forms of SLT in 2013, excluding sniffing tobacco.[68] In 2016, Turkmenistan prohibited the import of loose tobacco and tobacco cultivation, further reducing the potential for nasvay production.

The trend towards stricter SLT regulation spread across Central Asia, with Kazakhstan banning all types of SLT including oral categories of SNP in 2020.[69] Kyrgyzstan, Tajikistan, and Uzbekistan followed in subsequent years, with similar comprehensive bans on the production, import, and circulation of all types of SLT including oral SNP, but excluding nasvay.[70,71,72]

While Armenia and Ukraine have targeted specific types of SLT and oral SNP for prohibition, Azerbaijan and Georgia have adopted a more permissive approach, allowing the manufacture, import and sale of any SLT or oral SNP.

In some countries where SLT or certain types of oral SNP are not banned, their use is – somewhat curiously – prohibited in smoke-free areas. Additionally, all countries in the region require SLT products to carry text-based or pictorial health warnings and have enacted laws or regulations banning direct and indirect advertising of all tobacco products, including SLT.

EECA countries have adopted various approaches to regulate smokeless tobacco, including oral categories of SNP

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some Central Asian countries have taken drastic steps in regulating smokeless tobacco

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in some countries where SLT or certain types of oral SNP are not banned, their use is prohibited in smoke-free areas

Table 7 **SLT and oral SNP regulatory provisions in EECA (as of January 31, 2024)**

Country	Production, import and sale				Use in public places				Health warning requirements				Advertising and promotion			
	Nicotine pouches	Snus	Nasvay	SLT	Nicotine pouches	Snus	Nasvay	SLT	Nicotine pouches	Snus	Nasvay	SLT	Nicotine pouches	Snus	Nasvay	SLT
Armenia	Allowed	Allowed	Allowed	Chewing SLT is banned	Prohibited in some	Prohibited in some	Prohibited in some	Prohibited in some	No information	Text-only warning on 30% of the principal display areas (front and rear)			Some forms of direct and indirect advertising are banned			
Azerbaijan	Allowed	Allowed	Allowed	Allowed	No information	Prohibited in some	Prohibited in some	Prohibited in some	No information	Text-only warning on 30% of the principal display areas (front and rear)			Some forms of direct and indirect advertising are banned			
Belarus	Allowed	Tobacco--free snus is allowed	Banned	Sniffing SLT is allowed	No information	Prohibited	Prohibited	Prohibited in some	No information	Leaflet with text-only warning	Not applicable	Leaflet with text-only warning	Some forms of direct and indirect advertising are banned			
Georgia	Allowed	Allowed	Allowed	Allowed	Allowed	Allowed	Allowed	Allowed	No information	Text-only warning on 30% of the principal display areas (front and rear)			Some forms of direct and indirect advertising are banned			
Kazakhstan	Banned	Banned	Banned	Banned	Prohibited	Prohibited	Prohibited	Prohibited	Not applicable	Not applicable	Not applicable	Not applicable	All forms of direct and indirect advertising are banned			
Kyrgyzstan	Banned	Banned	Allowed	Banned	Prohibited	Prohibited	Prohibited in some	Prohibited	Not applicable	Not applicable	Pictorial/ Text warning, 65%	Not applicable	Some forms of direct and indirect advertising are banned			
Moldova	Allowed	Banned	Banned	Banned	No information	Prohibited	Prohibited	Prohibited	No information	Not applicable	Not applicable	Not applicable	All forms of direct and indirect advertising are banned			
Tajikistan	Banned	Banned	Allowed	Banned	Prohibited	Prohibited	Prohibited in some	Prohibited	Not applicable	Not applicable	Yes, the percentage not specified	Not applicable	Some forms of direct and indirect advertising are banned			
Turkmenistan	Banned	Banned	Banned	Sniffing SLT is allowed	Prohibited	Prohibited	Prohibited	Prohibited in some	Not applicable	Not applicable	Not applicable	Not applicable	All forms of direct and indirect advertising are banned			
Ukraine	Allowed	Allowed	Allowed	Allowed	No information	Prohibited in some	Prohibited in some	Prohibited in some	No information	Text-only warning on 30% of the principal display areas (front and rear)			Some forms of direct and indirect advertising are banned			
Uzbekistan	Banned	Banned	Allowed	Banned	Prohibited	Prohibited	Prohibited in some	Prohibited	Not applicable	Not applicable	Pictorial/ Text warning, 65%	Not applicable	Some forms of direct and indirect advertising are banned			

Source: WHO[73,74] Tobacco Control Laws[75], Duren M, Atella L, Welding K, et al. Nicotine pouches: a summary of regulatory approaches across 67 countries. Tobacco Control 2024;33:e32-e40[76]

Taxation of nicotine vaping products and HTP

Aligning with WHO FCTC recommendations, EECA countries have integrated nicotine vaping products and HTP into their national taxation frameworks, often mirroring the tax structures for traditional tobacco products. Until 2017, no EECA country had implemented excise taxes on these products, but in April of that year, Georgia introduced specific taxes on e-liquids. Almost six years later, Armenia followed suit, by initiating a tax on e-liquids from January 1, 2023.

Armenia's move seems to have triggered a regional trend. Several EECA countries increased their excise tax rates on e-liquids, e-cigarette devices, and disposables in 2023 and 2024.[77,78,79,80,81,82] As of January 2024, Armenia, Azerbaijan, Belarus, Georgia, Ukraine, and Uzbekistan apply excise taxes to all e-liquids, irrespective of their nicotine content. In contrast, some countries only tax nicotine-containing e-liquids. Azerbaijan, Belarus, Kyrgyzstan, and Tajikistan specifically tax vaping devices, whereas Georgia and Moldova impose taxes on disposable devices at the same rate as e-liquids (per ml of containing liquid). Uniquely, Tajikistan sets its excise tax in Euros, diverging from the common practice of using a country's national currency.

EECA countries have integrated nicotine vaping products and HTP into their national taxation frameworks

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Armenia, Azerbaijan, Belarus, Georgia, Ukraine, and Uzbekistan apply excise taxes to all e-liquids, irrespective of their nicotine content

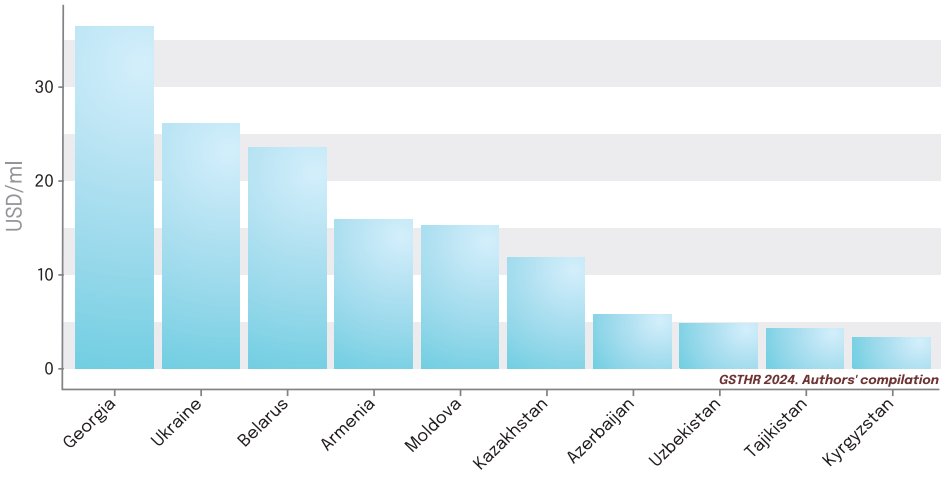
Table 8 **Taxation of nicotine vaping products in EECA (as of January 31, 2024)**

Country	Date of introduction of excise tax	Tax system	Tax rate and unit (local currency)	Tax rate and unit	Base	Explicit excise tax on vaping devices
Armenia	Jan. 1, 2023	Specific	AMD 65.00/ml	USD 0.16/ml	All e-liquids	No
Azerbaijan	Feb. 10, 2019	Specific	AZN 0.10/ml; AZN 2/unit for disposable devices	USD 0.06/ml; USD 1.18/unit for disposable devices	All e-liquids and disposable devices	Yes
Belarus	Jan. 1, 2022	Specific	BYN 0.77/ml; BYN 2.72/ e-cigarette device	USD 0.24/ml; USD 0.85/ e-cigarette devices	All e-liquids and e-cigarette devices	Yes
Georgia	Apr. 27, 2017	Specific	GEL 1.00/ml	USD 0.37/ml	All e-liquids and disposable devices	No
Kazakhstan	Jan. 1, 2018	Specific	KZT 55.00/ml	USD 0.12/ml	Nicotine-containing e-liquids	No
Kyrgyzstan	Jul. 5, 2019 Jan. 4, 2022	Specific	KGS 3.00/ml; KGS 100.00/ e-cigarette devices	USD 0.03/ml; USD 1.13/ e-cigarette devices	Nicotine-containing e-liquids and e-cigarette devices	Yes
Moldova	Jan. 1 2022	Specific	LEI 2.70/ml	USD 0.16/ml	Nicotine-containing e-liquids and disposable devices	No
Tajikistan	2022	Specific	EUR 0.04/ml; EUR 0.5/ e-cigarette devices	USD 0.04/ml; USD 0.55/ e-cigarette devices	Nicotine-containing e-liquids and e-cigarette devices	Yes
Turkmenistan	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Ukraine	Jan. 1, 2021	Specific	UAH 10/ml	USD 0.27/ml	All e-liquids	No
Uzbekistan	Jun. 1, 2020	Specific	UZS 605.00/ml	USD 0.05/ml	All e-liquids	No

Source: Tobacco in Australia,[83] Global taxation of ENDS and ENNDS: a cross-country evaluation and Recommendations for Taxation,[84] Vecherka News Tajikistan[85], Informarket Moldova[86], Tax Code of Azerbaijan,[87] Tax code of Armenia[88]
Note: Excise tax rates in USD are provided using official exchange rates as of 31 December of 2023 according to Treasury - UN Operational Rates of Exchange

At the time of writing, Georgia has the highest excise tax rate on e-liquids in the EECA region, at USD 0.37/ml, followed by Ukraine and Belarus with rates of USD 0.27/ml and USD 0.24/ml, respectively. In contrast, Kyrgyzstan, Tajikistan, Uzbekistan, and Azerbaijan have set their excise taxes on e-liquids to less than USD 0.1/ml. Notably, Azerbaijan has introduced an excise tax of USD 1.18 per unit for disposable e-cigarettes, and Kyrgyzstan applies a tax rate of USD 1.13 per device containing e-liquid. This means Azerbaijan and Kyrgyzstan are the two countries with the highest device-related tax rates in the region. Additionally, Kyrgyzstan has implemented minimum prices for disposable e-cigarettes and e-cigarette devices at USD 3.39 and USD 15.80 respectively, underscoring their approach to regulating the market for nicotine vaping products.

Excise tax rate on e-liquids (as of January 31, 2024)



Source: Tobacco in Australia,[89] Global taxation of ENDS and ENNDS: a cross-country evaluation and Recommendations for Taxation,[90] Vecherka News Tajikistan[91], Informarket Moldova[92], Tax Code of Azerbaijan,[93] Tax code of Armenia[94]
Note: Excise tax rates in USD are provided using official exchange rates as of 31 December of 2023 according to Treasury - UN Operational Rates of Exchange

Before 2017, EECA countries categorised HTP sticks alongside traditional raw tobacco, pipes or other tobacco products, basing taxes on weight. Amendments to tax codes have since distinguished HTP as a separate category, shifting to a stick-based excise tax system. Only Belarus, Tajikistan, and Uzbekistan continue to tax HTP sticks by weight.

Georgia has the highest excise tax rate on e-liquids in the EECA region

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Azerbaijan and Kyrgyzstan have the highest vaping device-related tax rates in the region

Table 9 **Taxation of HTP in EECA (as of January 31, 2024)**

Country	Date of introduction of excise tax	Tax system	Tax rate and unit (local currency)	Tax rate and unit	Base	Explicit excise tax on vaping devices
Armenia	2020	Specific	AMD 3400	USD 8.48	1000 sticks	No
Azerbaijan	2019	Specific	AZN 16	USD 9.42	1000 sticks	No
Belarus	2022	Specific	BYR 332.44 / BYR 2.72	USD 103.76 / USD 0.85	1 kg / 1 device	Yes
Georgia	2018	Mixed	GEL 1.70 + 30% of retail price	USD 1.44	20 sticks	No
Kazakhstan	2017	Specific	KZT 11130	USD 24.55	1000 sticks	No
Kyrgyzstan	2022	Specific	KGS 2750	USD 31.04	1000 sticks	No
Moldova	2019	Specific	LEI 1,103*	USD 63.89	1000 sticks	No
Tajikistan	2022	Specific	EUR 15**	USD 16.65	1 kg	No
Turkmenistan	No information					
Ukraine	2021	Specific	UAH 2516.54	USD 67.09	1000 sticks	No
Uzbekistan	2020	Specific	UZS 382000	USD 30.96	1 kg	No

Source: Campaign for Tobacco-Free Kids: HEATED TOBACCO PRODUCTS AND CIGARETTES TAXES AND PRICES AROUND THE WORLD[95], Vecherka News Tajikistan[96], Informarket Moldova[97], Tax Code of Azerbaijan,[98] Tax code of Armenia[99], Tax Code of Uzbekistan[100]
Note: Excise tax rates in USD are provided using official exchange rates as of 31 December of 2023 according to Treasury - UN Operational Rates of Exchange

Georgia is unique in the EECA region for its mixed excise tax system, incorporating both specific and *ad valorem* components for HTP sticks, while other countries have adopted a specific excise tax rate. Belarus notably applies taxes not just to HTP sticks, but also to the devices themselves. Furthermore, Armenia, Kyrgyzstan, Moldova, and Ukraine have enacted legislation for annual increases in excise tax rates on all tobacco products, including HTP sticks.

An analysis of excise tax rates for HTP sticks versus cigarettes across the region shows diverse approaches. Georgia and Kyrgyzstan apply identical rates to both HTPs and cigarettes, whereas Moldova and Ukraine impose a specific excise tax on HTP sticks and a mixed excise tax on cigarettes. As of 2023, the effective excise tax rates are equal in these countries across both products. Paradoxically in public health terms, therefore, consumers in these countries face the same tax burden for choosing the less risky option.

However, Azerbaijan, Armenia, Belarus, Kazakhstan, Tajikistan and Uzbekistan offer significantly lower excise taxes on HTP sticks compared to cigarettes, suggesting a regulatory inclination towards promoting heated products. In these countries, theoretically, the behavioural nudge created by the differential in tax is in the right direction to help reduce the harms of combustible tobacco – pointing consumers towards the less risky product. In reality, however, as we shall see in the next section, lower excise rates do not always translate to lower retail prices.

Notably, Kyrgyzstan and Kazakhstan both established a minimum retail price for HTP sticks, at 107.5 (USD 1.21) and KZT 720 (USD 1.59) per 20 sticks respectively.[101,102,103]

an analysis of excise tax rates for HTP sticks versus cigarettes across the region shows diverse approaches

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paradoxically consumers in Georgia, Kyrgyzstan, Moldova and Ukraine face the same tax burden for choosing the less risky option

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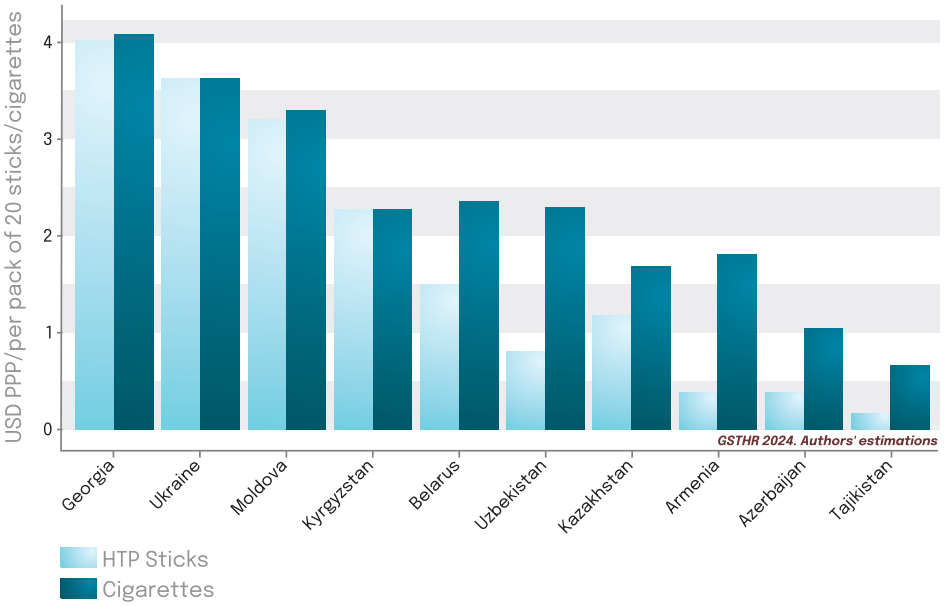
in Azerbaijan, Armenia, Belarus, Kazakhstan, Tajikistan and Uzbekistan, the behavioural nudge created by the differential in tax is in the right direction

Excise tax rate on HTP sticks and cigarettes in EECA (2023)



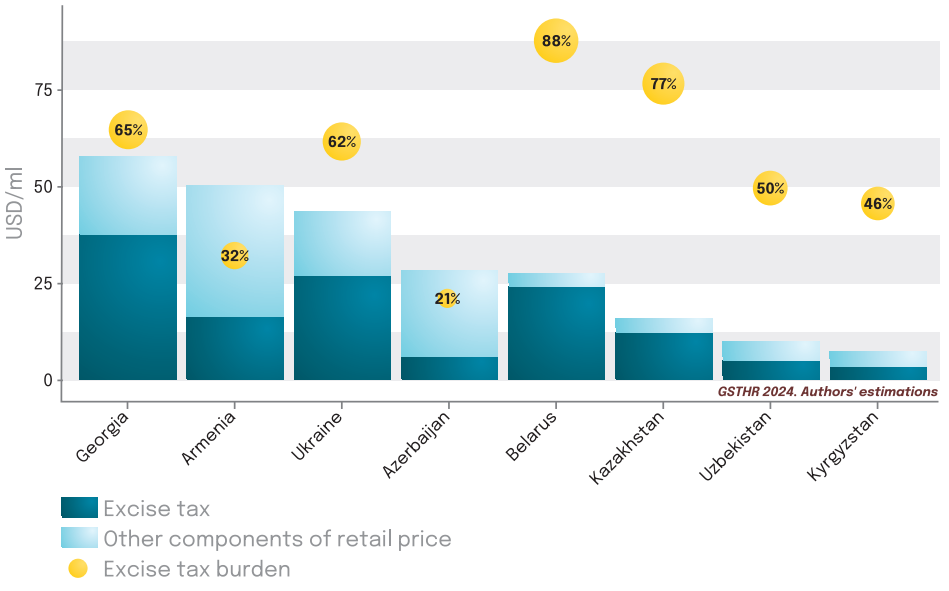
Source: Authors' estimations, Campaign for Tobacco-Free Kids: HEATED TOBACCO PRODUCTS AND CIGARETTES TAXES AND PRICES AROUND THE WORLD[104], Vecherka News Tajikistan[105]
Notes:
1. For countries that tax HTP by weight, excise tax rates are estimated on the assumption that 1 HTP stick contains 0.305 gram of tobacco.
2. Georgia and Kyrgyzstan have the same excise structures and rates for both cigarettes and HTP sticks.
3. For Tajikistan, the latest data on excise tax for cigarettes and HTP sticks available in public sources were from 2021 and 2022 respectively. Therefore, the current excise rates might differ from what is shown in the table.

Retail prices of SNP

While taxation plays an important role in determining the prices of tobacco and nicotine products, the experience of the EECA countries shows that higher excise taxes do not always translate into higher retail prices for SNP. Factors beyond excise taxes, such as Value Added Tax (VAT), profit tax levels, proximity to SNP production countries, and industry strategies, including profit margins, probably influence price formation. This results in considerable variability in retail prices across the region, underscoring the complexity of pricing dynamics beyond the issue of taxation.

Among countries with available data, Georgia records the highest retail prices for e-liquids at USD 0.57/ml, followed by Armenia at USD 0.50/ml, and Ukraine at USD 0.47/ml.[106] Interestingly, Belarus and Kazakhstan, where the excise tax burden is the heaviest at 88% and 77% respectively, have some of the lowest retail prices in the region. Only in Kyrgyzstan and Uzbekistan are e-liquids more affordable, priced at USD 0.07/ml and USD 0.10/ml respectively.

Price and excise tax burden on e-liquids in EECA (as of April 2023)



Source: Authors' estimations, Global taxation of ENDS and ENNDS: a cross-country evaluation and Recommendations for Taxation[107]
Notes:
1. Excise tax rates in USD are provided using official exchange rates as of 31 December of 2023 according to Treasury - UN Operational Rates of Exchange
2. In the case of Armenia, the figures present the excise tax rate and the median price of e-liquid as of January 2024. The median price of e-liquid is taken from an online retail shop[108] (estimated per 1 ml from the price of a 30 ml e-liquid bottle).

The countries with the highest retail prices for e-liquids also have the highest retail prices for HTP sticks. Georgia is the most expensive (2.7$ per pack of 20 sticks), followed by Moldova (2.6$) and Azerbaijan (2.5$). HTP sticks are cheapest in Kyrgyzstan (1.3$), Uzbekistan (1.3$) and Belarus (1.3$). Interestingly, in Azerbaijan and Armenia, where the excise tax burdens on HTP sticks are among the lowest in EECA at 7% and 8% respectively, retail prices are higher than in Belarus, where the excise tax burden is the highest in the region at 56%.

Notably, in all countries except Uzbekistan, HTP sticks are cheaper than cigarettes. Armenia, Azerbaijan, and Belarus illustrate this pattern most clearly. However, it is important to note that the prices of cigarettes used for these comparisons are based on Marlboro, considered a premium cigarette brand.[109]

When using the price of the most sold cigarette brand instead, the relative cost comparison between HTP and cigarettes shifts, making HTP sticks more expensive than cigarettes in all countries of the region except Armenia. This highlights that cigarettes remain more affordable than HTP, especially when considering the additional cost of the device. This disparity in affordability may pose a significant financial barrier to the substitution of cigarettes with safer alternatives, particularly in low-income populations.

the experience of the EECA countries shows that higher excise taxes do not always translate into higher retail prices for SNP

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considerable variability in retail prices across the region underscores the complexity of pricing dynamics beyond the issue of taxation

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cigarettes remain more affordable than HTP, especially when considering the additional cost of the device

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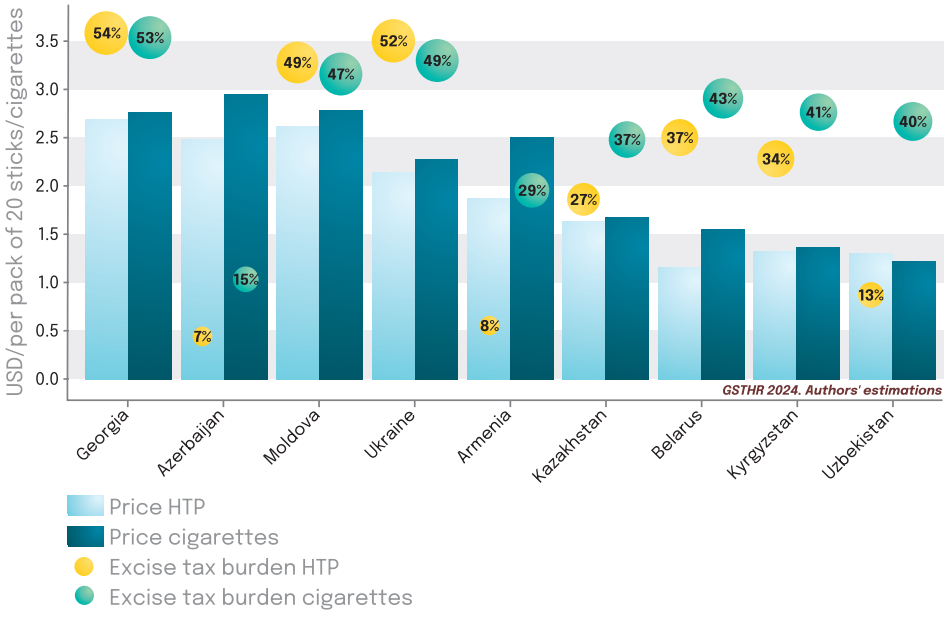
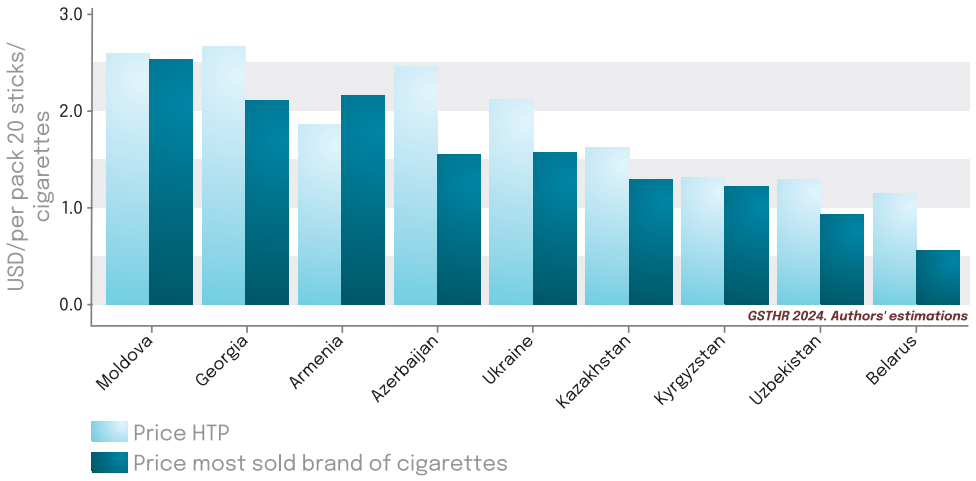
Price and excise tax burden on cigarettes and HTP in EECA (2023)



Source: Authors' estimations, Campaign for Tobacco-Free Kids: HEATED TOBACCO PRODUCTS AND CIGARETTES TAXES AND PRICES AROUND THE WORLD[110]
Notes:
1. Excise tax rates in USD are provided using official exchange rates as of 31 December of 2023 according to Treasury - UN Operational Rates of Exchange.

Source: Authors' estimations, Campaign for Tobacco-Free Kids: HEATED TOBACCO PRODUCTS AND CIGARETTES TAXES AND PRICES AROUND THE WORLD[111], WHO[112]
Notes:
1. Excise tax rates in USD are provided using official exchange rates as of 31 December of 2023 according to Treasury - UN Operational Rates of Exchange.
2. To estimate the price of the most sold brand of cigarettes for 2023, we used the price ratio between the premium brand and the most sold brand of cigarettes in 2020 from WHO, along with the 2023 cigarette prices sourced from CTFK.

Price on most sold brand of cigarettes and HTP in EECA (2023)



Public perceptions

Public understanding of the health risks associated with tobacco and nicotine use, along with perceptions of the relative and absolute risks of various products including SNP, is under-researched in the EECA region. Only a few countries have added questions on this topic to their recent tobacco and nicotine use surveys. This has led to gaps in the literature on the impact of campaigns and policies aimed at reducing tobacco use over the last decade.

In Armenia, a significant majority of the population recognises the dangers of smoking both filtered (77.9%) and unfiltered (88.5%) cigarettes, labelling them as "very harmful".[113] Yet, a small segment, around 3%, perceives smoking as "harmless".

When it comes to nicotine vaping products, 62.6% of the population view them as "very harmful", while 9.4% consider them "less harmful" and 6.1% "harmless". Perceptions of HTP follow a similar pattern: 60.4% view them as "very harmful", 9.6% as "less harmful", and 5.2% as "harmless".

With "smokeless tobacco, chewing gum, snus", 49% find them "very harmful", with 6.6% "less harmful" and 4.8% "harmless". However, uncertainty about the level of risk associated with SNP use is very common. About 20% of people are uncertain about the risk posed by nicotine vaping products; this rises to 25% for HTP and 40% for snus.

In Georgia, over half of respondents (53.7%) are unsure whether vaping is more harmful than smoking combustible cigarettes.[114] Of those who have formed an opinion, 32.8% believe vaping is more harmful, compared to 13.5% who believe that smoking is more harmful.

Kazakhstan's survey shows that 87.6% of adults aged 15 and older acknowledge the severe health risks of smoking, with a notable difference between current smokers (78.9%) and non-smokers (89.8%).[115] Opinions about nicotine

vaping products vary; 20.2% of adults view them as less harmful than cigarettes, with a split between smokers (25.0%) and non-smokers (18.4%). Similarly, 21.1% of adults consider HTPs less harmful, a view shared by 29.1% of current smokers and 17.9% of non-smokers.

In Ukraine, a vast 95.2% acknowledge that smoking causes severe health issues.[116] About three-quarters believe that nicotine vaping products and HTPs are "addictive and can cause serious health problems". However, 47.7% of HTP users cite a perceived reduced in harm compared to cigarettes as their reason for using the products. Among current vapers, 29% use these products because they believe they are less harmful.

Cessation services

In the EECA region, the availability of smoking cessation services is notably lacking. No EECA countries have achieved the highest MPOWER score for support in helping tobacco users quit. This metric, developed by the WHO, tracks the implementation of effective cessation strategies.

Table 10 reveals the existing gaps across the region in offering specific tobacco cessation aids. While some countries provide quit lines free of charge and legally sell cessation products like Bupropion, Cytisine, NRT, and Varenicline, the practical availability of treatments for tobacco dependence in primary care facilities, hospitals, health professionals' offices, and community settings is alarmingly sparse.

Armenia, Belarus, Kyrgyzstan, and Uzbekistan offer some support for cessation; their score of 4 indicates that at least one cessation service is cost-covered. However, Azerbaijan, Georgia, and Ukraine, scoring 3, offer NRT and some cessation services without covering the cost, potentially making these essential aids inaccessible to many tobacco users keen to quit.

The lack of robust cessation services, coupled with limited coverage, suggests that people in the EECA region are largely left on their own when attempting to stop smoking. For many, this lack of support will result in continued tobacco use.

No EECA governments have publicly endorsed the effectiveness of harm reduction strategies in tobacco control or implemented them in their policies. On the contrary, health authorities often disseminate misinformation about SNP, such as inaccurate claims that nicotine vaping products are as harmful as cigarettes or that they do not aid people to quit smoking.[117] The focus on the absolute harms of nicotine vaping products, while ignoring their substantially lower relative harms compared to combustible cigarettes, exacerbates the challenge of tobacco control in the region.[118,119]

public understanding of the health risks associated with tobacco and nicotine use, and of the relative and absolute risks of SNP, is under-researched

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no EECA governments have publicly endorsed the effectiveness of harm reduction strategies and health authorities often disseminate misinformation about SNP

Table 10 **Availability of particular tobacco cessation aids in EECA (MPOWER - Offer help to quit tobacco use)**

Country	Access to a toll-free quit line	Product legally sold				Treatment for tobacco dependence available in					Offering help to quit tobacco use (MPOWER)
		Bupro-pion	Cytisine	NRT	Varenicline	Health clinics or other primary care facilities	Hospitals	Offices of health pro-fessionals	Other settings	Community	
Armenia	Yes	Yes	Yes	Yes	Yes	Yes in some	No	No	No	No information	4
Azerbaijan	Yes	No	Yes	No	No	No	No	No	Yes in some	No	3
Belarus	Yes	No	No	Yes	Yes	Yes in some	Yes in some	No	Yes in some	No	4
Georgia	Yes	No	Yes	Yes	Yes	Yes in some	No	No	No	No	3
Kazakhstan	No	Yes	Yes	Yes	Yes	Yes in some	No	Yes in some	Yes in some	Yes in some	4
Kyrgyzstan	Yes	No	N/A	No	Yes	Yes in most	No	Yes in most	Yes in some	Yes in some	4
Moldova	Yes	No	No	No	No	Yes in some	No	No	Yes in some	No information	4
Tajikistan	No	No	No information	No	No	No	No	No	No	No information	2
Turkmenistan	Yes	Yes	No	Yes	Yes	No	No	Yes in most	Yes in some	No	4
Ukraine	Yes	No	Yes	Yes	Yes	Yes in some	No	No	No	No	3
Uzbekistan	No	No	Yes	Yes	Yes	Yes in some	Yes in some	No	No	No	4

Source: WHO Global Health Observatory
Note: MPOWER groupings for the indicator 'Offering help to quit tobacco use' are: 1 = Data not reported; 2 = None; 3 = NRT and/or some cessation services (neither cost-covered); 4 = NRT and/or some cessation services (at least one of which is cost-covered); 5 = National quit line, and both NRT and some cessation services cost-covered.

Conclusion

Despite some progress in reducing smoking rates across the EECA region over the past two decades, smoking remains a critical policy challenge. The persistence of elevated smoking rates, with nearly half of the region's countries exhibiting alarmingly high figures, underscores the complexity of tobacco control here.

The prevalence of smoking among men is particularly concerning, with every second man reported as a smoker in certain countries. This is indicative of slow progress in reducing, and, in some instances, a regression in smoking rates. Additionally, the high prevalence of SLT use, particularly nasvay in Central Asia, suggests a nuanced landscape of tobacco consumption that extends beyond conventional cigarettes.

At the same time, the current approach to smoking cessation in the EECA region reveals significant service provision and coverage gaps, compounded by prevalent scepticism and resistance toward harm reduction strategies. Misinformation about SNP and their role in smoking cessation, propagated by some authorities, exacerbates these challenges, distorting public perception and potentially hindering effective tobacco control efforts.

The regulatory landscape, meanwhile, reflects a cautious stance toward SNP, often treating them on a par with combustible cigarettes. This does not align with principles of risk-proportionate regulation. In this context, the anti-vaping sentiment prevalent in Central Asian countries within the EECA region is particularly striking. Turkmenistan has imposed a complete ban on nicotine vaping products, with ambiguous regulations for HTP. This trend continues,

with Tajikistan and Uzbekistan's recent bans on disposable e-cigarettes, Kazakhstan recently implementing a total ban on nicotine vaping products, and Kyrgyzstan planning to follow suit.

Despite all these barriers, the increasing presence of SNP in countries like Belarus, Georgia, Kazakhstan, Moldova, and Ukraine suggests an openness among people who smoke to experiment with emerging tobacco and nicotine products. This trend, albeit nascent and facing considerable opposition, highlights a potential pathway for harm reduction and tobacco control, suggesting that with supportive policies and public education, SNP could play a role in reducing the tobacco burden in the EECA region.

One notable gap in the EECA region is the absence of THR consumer advocacy. Unlike other parts of the world, there are no known consumer advocacy movements related to THR at present in the EECA region. This extends beyond THR to general consumer advocacy, which is also significantly underdeveloped. Despite extensive searches of online sources, academic literature, and consultations with local experts and researchers, no material on THR consumer advocacy in the EECA region has been identified. This absence will impede tobacco harm reduction efforts, as consumer advocacy can play a crucial role in informing public policy, educating consumers, and countering misinformation.

To effectively address the multifaceted challenges of tobacco use in the region, a concerted effort is required. Access to a broader range of cessation services should be expanded, and harm reduction should be embraced as a cornerstone of tobacco control policies. Essential to this strategy are robust public education campaigns, designed to rectify widespread misinformation and uncertainties regarding SNP. This could foster an environment conducive to effective tobacco control and harm reduction efforts. Ultimately, embracing a comprehensive approach that incorporates harm reduction alongside traditional tobacco control measures could significantly contribute to public health improvements in the EECA region.

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GLOBAL STATE OF TOBACCO HARM REDUCTION 2024

A SITUATION REPORT

Section Four

JAPAN

4

Report overview

The Global State of Tobacco Harm Reduction 2024: A situation report is a multi-component publication, grouped into two parts, ***Global perspectives*** and ***Regional and national insights.*** The extent to which SNP are replacing and substituting for combustible and risky oral tobacco products is the unifying theme.

Global perspectives uses the latest evidence and new data projections to report on the current global THR situation and its potential to rapidly reduce the burden of disease and mortality associated with risky tobacco use. Measuring changes in SNP uptake, policy and regulation, it considers how these factors interrelate to support or undermine progress.

Regional and national insights considers the status of tobacco use and THR at the regional or national level. The document you are about to read, **Cigarette sales halved: heated tobacco products and the Japanese experience**, is one of four profiles of countries that have enabled THR to drive down smoking rates. Similar profiles for **Aotearoa New Zealand**, **Norway** and the **UK** are also available. A broader regional focus is applied to **Latin America** and **Eastern Europe and Central Asia**.

GLOBAL STATE OF TOBACCO HARM REDUCTION 2024

A SITUATION REPORT

Section Four

Japan

Section Four

Cigarette sales halved: heated tobacco products and the Japanese experience

Introduction

As in most high-income countries, smoking rates in Japan have been falling in recent decades, but the introduction of heated tobacco products (HTP), coupled with a favourable legislative climate, has accelerated that decline. Over the last 10 years, millions of Japan's adult smokers have started to use HTP, leading to a globally unprecedented 52% fall in cigarette sales, and this Country Profile explores the story behind this rapid transition.

What is the history of tobacco use in Japan and what impact has it had?

Tobacco is generally accepted to have reached Japan by the end of the 16th century. The traditional method of smoking tobacco involved the use of a kiseru, a long, thin pipe into which fine-cut, hair-like tobacco would be added. Cigarettes were introduced to the country in the latter half of the 19th century and quickly became popular.

An annual, cross-sectional nationwide survey on smoking in Japan shows smoking rates for men peaked in 1970, when 79% of those aged 20-29 years old smoked.[1] The highest rates for women came in 2000, when 23% of 20-29-year-olds smoked.

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the tobacco industry was a state monopoly until 1985, and Japan's tobacco control policies are considered to be weaker than those in other high-income countries

The impact of smoking in Japan has been significant over the last few decades. In 1990, the total number of deaths from all causes that were attributed to smoking was 126,240.[2] By 2021, this figure had risen to 132,467, though other sources claim that as many as 211,000 people died from smoking in 2019.[3] This meant that for Japanese men, 23.5% of their deaths were attributable to tobacco use that year, and for women this figure was 6.4%.

One study on people born between 1920 and 1945 found that for those who continued to smoke, having started before they were 20, their life expectancy was reduced by an average of 10 years.[4] In 2021, tobacco was ranked second in the list of risk factors driving the most deaths and disability combined in Japan.[5] Tobacco was also found to be responsible for 78.9% of all lung cancer deaths and 62.9% of all chronic obstructive pulmonary disease (COPD) deaths.[6] The economic cost of smoking and tobacco use in Japan each year is estimated to be 6,988,987,105,280 yen (around $48 billion).[7]

How long have heated tobacco products been in Japan?

HTP arrived in Japan in 2014 when Philip Morris International (PMI) decided to test its IQOS product in Nagoya, before rolling it out across the country two years later. IQOS was soon followed by other products, with some of the leading brands including Ploom TECH, launched in March 2016 by Japan Tobacco, and British American Tobacco's glo, which arrived in the country in December 2016.[8]

What made Japan a receptive market for heated tobacco products?

Japan presented a unique opportunity for the manufacturers of HTP for a variety of reasons. While smoking rates had been falling steadily for some time when HTP arrived, 29.7% of men and 9.7% of women were still smoking in 2016.[9] This meant there was a large potential market of consumers who might like to switch away from smoking to an SNP that would reduce the harm connected to their use of tobacco (see Chapter 2 of this report for more details about the relative safety of HTP compared to smoking). And, with nicotine vapes effectively banned in Japan, there were no other SNP to compete with HTP. The country also offered a tobacco-friendly business environment, in part because the government owns one-third of Japan Tobacco Inc. Indeed, the tobacco industry was a state monopoly until 1985, and Japan's tobacco control policies are considered to be weaker than those in other high-income countries.[10]

There were also a range of societal and cultural factors that meant HTP might prove successful in the country. Japanese people are keen adopters of new technologies. They are also motivated by a desire to reduce their impact on their fellow citizens, while maintaining high standards of hygiene. It was therefore reasonably likely they would want to try out a new electronic gadget which produced neither the smoke associated with combustible cigarettes, nor the smell or ash.[11]

What do people in Japan say about their decision to start using HTP?

The Global State of Smoking Poll 2019, carried out by the Foundation for a Smoke-Free World, found the most common reason Japanese smokers switched from cigarettes to HTP was due to concern about the health risks to others associated with second-hand smoke from cigarettes (40%).[12] This was followed by 36% who said HTP may not be as bad for their own health, and 35% who said they could use HTP in places where smoking was not allowed, another aspect of the dual use issue.

Peer-reviewed scientific research has also assessed the reasons both current and former adult smokers are using HTP. One study found that the belief that HTP are less harmful to either themselves (90.6%) or others (86.7%) were the most important factors.[13] This was followed by personal enjoyment (76.5%), while 74.4% said HTP use was more socially acceptable than smoking cigarettes. Among current smokers, 55.1% said they used HTP in the hope they may help them quit smoking.

However, research from both independent and industry-sponsored studies has revealed that a significant proportion of HTP users in Japan also smoke cigarettes.[14,15,16,17] One study showed that for two-thirds of these dual users, HTP use allowed them to reduce the number of cigarettes they smoked.[18] But for many of this group, switching completely was not their ultimate goal, with the same study finding 52% of those using HTP said they replaced some of the cigarettes they consumed with HTP so that they did not have to completely give up smoking. Therefore, dual use is playing an important role in the reduction in smoking seen in Japan.

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How many people are using HTP and how have smoking rates been affected?

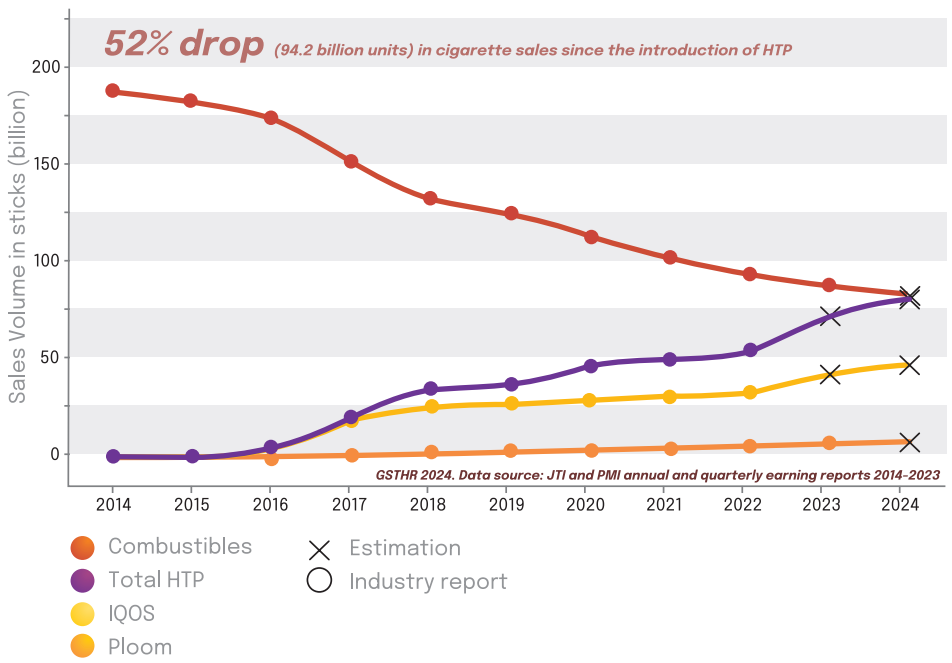
The rise in the use of HTP in Japan has been significant and rapid. By February 2018, just two years after they had become available across the whole of the country, one study found there were 5.23 million HTP users in Japan.[19] This figure equated to one in four of all Japanese tobacco users and meant 8.3% of men (4.21 million) and 1.9% of women (1.02 million) in the country were HTP consumers. By comparison, 22% of men and 7.5% of women were current cigarette smokers that year (down from 29.7% of men and 9.7% of women in 2016). By 2022, the number of HTP users had more than doubled, with 17.9% of men and 6% of women using this SNP.[20]

As previously noted, smoking rates had been falling for a number of years in Japan, but the speed of this decline accelerated after the introduction of HTP. The reduction in cigarette sales between 2016-2019 was five times greater than the drop between 2011-2015.[21]

Other research shows that the combined use of IQOS, Ploom, and glo increased ten fold between 2015-16 and 2017-18.[22] This research found that by 2018, HTP use had spread to one in three current cigarette smokers who wanted to quit, but also one in four current smokers who had no intention of quitting. It further revealed that HTP use had dramatically increased in all subgroups they assessed except, importantly, for those who had never smoked.

Our own Global State of Tobacco Harm Reduction research, which compares sales volumes, further emphasises the changing nature of cigarette and HTP consumption. Using market data released in annual and quarterly reports by PMI and Japan Tobacco, the sales of individual cigarettes were around 182.34 billion units when HTP started to become more widely available in 2015. By 2023 this had dropped 52% to just 88.1 billion units, a fall of 94.2 billion units, while the sale of the tobacco sticks used in HTP that year had risen to 62 billion units in under 10 years.

Japanese tobacco market size in retail units



How does the Japanese government regulate safer nicotine products?

While HTP and snus can both be legally sold under the framework of the Tobacco Industries Act as non-medicinal tobacco products,[23] nicotine vapes and nicotine pouches are subject to different regulation. Nicotine and its preparations in concentrations of 10% or more are designated as poisons under the Poisonous and Deleterious Substances Control Act in Japan.[24] Even lower concentrations of nicotine are regulated under the Pharmaceutical and Medical Device Act, and vaping devices themselves are subject to the same Act.[25] This means they require

approval before they can be manufactured and sold, but to date, no nicotine liquids or vaping devices have been approved for sale in Japan.

As both vapes and nicotine pouches contain nicotine but no tobacco leaves, they are treated as pharmaceutical products. If they were to contain tobacco, they would come under the Tobacco Industries Act and could be sold legally as non-medicinal tobacco products. This regulatory quirk has led to manufacturers adding tobacco leaf to nicotine pouches, simply as a way to get them on the Japanese market without the need to obtain pharmaceutical approval.[26]

HTP are generally regulated in a similar way to combustible cigarettes in Japan, though the actions of the government have tended to treat HTP more favourably. Neither of these products can be sold to anyone under 20, but there are some crucial differences in the laws governing where they can be used. Since 2019, under revisions made to the Health Promotion Law, both cigarettes and HTP are banned from hospitals, schools and government offices.[27] Since 2020 in factories, general offices and restaurants, cigarette use has only been permitted in special tobacco rooms that are used exclusively by smokers for smoking and nothing else. HTP users, however, while also restricted to designated rooms within these venues, can also undertake other activities in these spaces, for example, eating and drinking.

There are also differences in the way both products are taxed. In 2021, the total excise tax for cigarettes was more than double that of HTP, being ¥284.9 per pack compared to ¥131.03 for HTP.[28] It should be added, though, that research has found that 85% of HTP sold in the country were priced at the same level as premium brand cigarettes, with one survey finding current or former smokers who had begun using HTP were not doing so to save money[29].

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there are no restrictions on tobacco advertising under national law

There are no restrictions on tobacco advertising under national law. This means the producers of HTP in Japan are able to claim that their products are “less harmful” alternatives to combustible cigarettes. But despite the lack of legislation, the industry itself does impose some voluntary limits through self-regulation, for instance by encouraging companies to target their marketing to adults only. So, while they should refrain from promotion in ‘highly public places’, such as TV, radio, internet, newspapers, or magazines, they can advertise their products on posters, billboards or on buildings where tobacco can be bought.[30]

Key takeaways

The success of HTP in helping to reduce the sale of cigarettes by 52% in Japan offers a valuable insight into the potential for SNP to reduce the number of smokers around the world. There may be some social and cultural factors that made Japan uniquely suited to HTP, such as an openness to new technology and a desire to limit an individual’s impact on others, but this transition has been overwhelmingly driven by consumers’ concerns about health, whether their own or others’.

The situation in Japan demonstrates that if SNP are made widely available and are allowed to be promoted to adult smokers as a safer alternative to smoking, then many smokers will make that switch, or reduce their consumption of cigarettes through dual use, with all the benefits that brings to public health. It should also be noted that unlike the UK, whose government has actively endorsed the use of nicotine vapes as smoking cessation tools, this rapid and unrivalled change has taken place in a country whose political leaders neither opposed nor came out strongly in favour of HTP.

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GLOBAL STATE OF TOBACCO HARM REDUCTION 2024

A SITUATION REPORT

Section Five

AOTEAROA NEW ZEALAND

5

Report overview

The Global State of Tobacco Harm Reduction 2024: A situation report is a multi-component publication, grouped into two parts, ***Global perspectives*** and ***Regional and national insights.*** The extent to which SNP are replacing and substituting for combustible and risky oral tobacco products is the unifying theme.

Global perspectives uses the latest evidence and new data projections to report on the current global THR situation and its potential to rapidly reduce the burden of disease and mortality associated with risky tobacco use. Measuring changes in SNP uptake, policy and regulation, it considers how these factors interrelate to support or undermine progress.

Regional and national insights considers the status of tobacco use and THR at the regional or national level. The document you are about to read, **Pro-consumer laws and an endorsement for vaping: why smoking is disappearing in Aotearoa New Zealand**, is one of four profiles of countries that have enabled THR to drive down smoking rates. Similar profiles for **Japan**, **Norway** and the **UK** are also available. A broader regional focus is applied to **Latin America** and **Eastern Europe and Central Asia**.

GLOBAL STATE OF TOBACCO HARM REDUCTION 2024

A SITUATION REPORT

Section Five

Aotearoa New Zealand

Section Five

Pro-consumer laws and an endorsement for vaping: why smoking is disappearing in Aotearoa New Zealand

Introduction

Aotearoa New Zealand has experienced a steady reduction in smoking rates over the past 50 years, and since the legalisation and widespread adoption of vaping products in the past decade, this decline has gathered pace with a significant uptick in the use of SNP. Aotearoa New Zealand is now on track to become one of the first 'smokefree' countries in the world, a designation indicating that smoking prevalence has been reduced to below 5%. This Country Profile seeks to explore the complex and rapid trajectory of Aotearoa New Zealand's smokefree journey, and the lessons that can be learned from the country's consumer-forward approach to public health.

How have smoking rates in Aotearoa New Zealand changed over time?

Aotearoa New Zealand is now on track to become one of the first 'smokefree' countries in the world

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the most recent New Zealand Census data indicate a current smoking prevalence of 7.7% as of 2023

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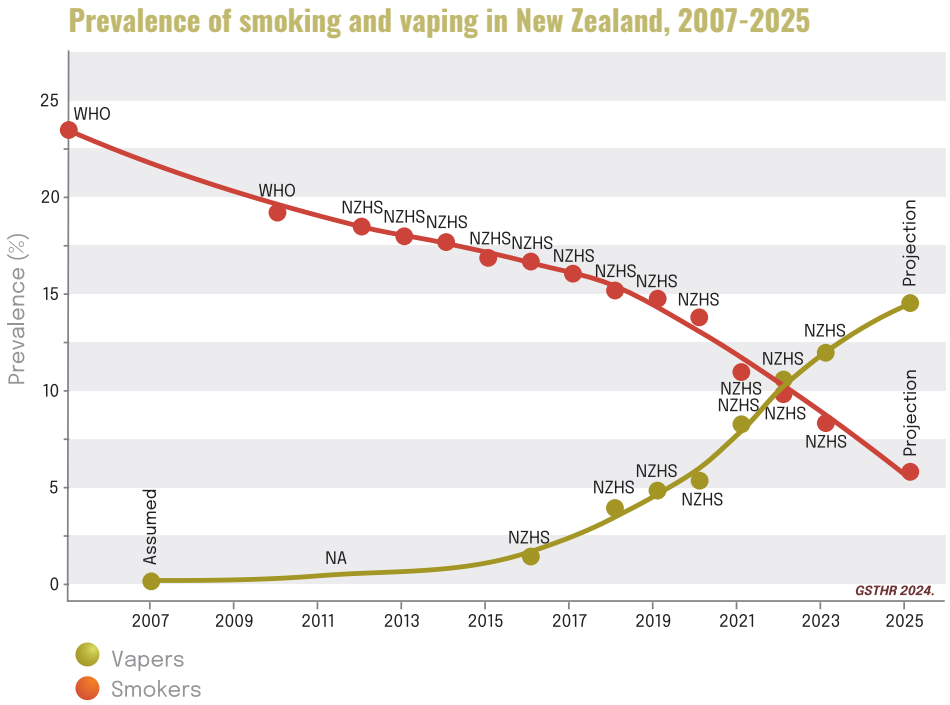
there remains a large disparity in smoking prevalence among minority, indigenous and vulnerable populations

Tobacco was introduced by the earliest European settlers and colonisers of Aotearoa New Zealand from the mid-to-late 18th century, initially as a trading commodity.[1] Prior to this tobacco had not been used by the people of Aotearoa New Zealand. As with many other countries tobacco use rapidly became embedded across society. Aotearoa New Zealand's tobacco consumption peaked in the 1960s (it should be noted that population-wide data on individual smoking habits among Aotearoa New Zealanders have only been available since 1976).[2] By 1976 the smoking rate among men was 40%, with a lower rate of 32% recorded for women.[3] Smoking rates in Aotearoa New Zealand steadily declined over the following decades: 18.4% of adults were current smokers in 2011/2012, dropping further to 8.3% in 2023 according to New Zealand Health Survey data.[4,5,6] The most recent New Zealand Census data indicate a similar current smoking prevalence of 7.7% as of 2023.[7] Our projection of the New Zealand Health Survey data is that smoking will continue to fall to around 5% by 2025.

Although overall smoking rates have declined to under 10% in the general population,[8] there remains a large disparity in smoking prevalence among minority, indigenous and vulnerable populations in Aotearoa New Zealand. Historically the prevalence of tobacco smoking has been significantly higher among Maori compared to people of European descent,[9] and although smoking rates in the Maori community are declining, they remain significantly higher than the 5% smoking prevalence stipulated by Aotearoa New Zealand's Smokefree 2025 goal. Daily smoking prevalence for Maori, who make up 16% of the population of Aotearoa New Zealand, was 17.1% in 2022/2023; this is in stark contrast to the 6.1% daily smoking rate of people of European descent.[10] People of Asian descent had a daily smoking rate of 3.3% in 2022/2023, while people of Pacific descent had a daily smoking rate of 6.4%. Historically, Maori and Pacific Peoples have had a considerably higher rate of daily smoking rate compared to other communities in Aotearoa New Zealand.[11]

When did people begin switching to safer nicotine products in Aotearoa New Zealand?



Source:
NZHS: New Zealand Health Survey[12]
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The forecast to 2025 is the author's linear extrapolation of data points from 2016 to 2023 for vapers and 2021 to 2023 for smokers.

To better understand this decline in smoking rates we need to take a closer look at the change in attitudes to SNP that has occurred over the past decade. Prior to 2018, the sale of nicotine vaping products was illegal in Aotearoa New Zealand, however the sale of vaping devices was permitted, along with non-nicotine-containing e-liquid. Some online vendors sold nicotine-containing e-liquids on request, thereby enabling Aotearoa New Zealanders to use nicotine e-liquid in their legal vaping devices and bypass regulatory restrictions. Aotearoa New Zealand had a vaping prevalence of 1.4% in 2015/2016[14] - this was in contrast to the UK, which in 2016 had a legal vape market and a vaping prevalence four times that of Aotearoa New Zealand at 5.7%.[15] Following legalisation of nicotine-containing vaping products in 2018, Aotearoa New Zealand experienced a rapid uptake of vaping, to the extent that vaping product use has, as of 2022, overtaken tobacco smoking, according to the latest data from the New Zealand Health Survey.[16]

Shortly after the legalisation of nicotine vaping products, a 2019 survey of current and former smokers in 14 countries,[17] including the USA, Australia and China, found that Aotearoa New Zealand had the second highest prevalence of vaping among current and ex smokers, second only to the United Kingdom. A representative survey of current and ex-smokers who participated in the International Tobacco Control (ITC) New Zealand Surveys found the primary reason for using vaping products was the incentive to save money compared to tobacco smoking, followed by the desire to cut down on smoking, and the desire to quit smoking.[18]

following legalisation of nicotine-containing vaping products in 2018, Aotearoa New Zealand experienced a rapid uptake of vaping

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despite the ban on nicotine e-liquids, there was a strong community of vapers active before 2018 who were able to access nicotine vaping products through online vendors

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it has been suggested that the wide variety of flavoured vaping products has played a part in the popularity of safer products in Aotearoa New Zealand

Why did vaping become the main safer nicotine product of choice?

Before 2018, the sale of nicotine-containing vaping products and e-liquids, as well as many SNP, was banned under the Smokefree Environments and Regulated Products Act 1990. This legislation prohibited the sale of "any tobacco product labelled or otherwise described as suitable for chewing, or for any other oral use (other than smoking)",[19] and therefore was deemed to apply to a broad range of SNP. These restrictions effectively banned nicotine vapes, however the regulation was rarely enforced, and importation for personal use was permitted. While this ban was in place, nicotine e-liquids were instead licensed as medicinal products, but no licences for medicinal nicotine vaporising products were ever granted.[20] Despite the ban on nicotine e-liquids, there was a strong community of vapers before 2018 who were able to access nicotine vaping products through online vendors, and who established a body of support for safer products prior to full legalisation (see Chapter 2 of this report for further details about the relative safety of vaping compared to smoking).

Amid a burgeoning trade in nicotine e-liquids in both online and brick-and-mortar shops, in 2017 Philip Morris International (PMI) began to sell their HEETs heated tobacco sticks (for use with IQOS heated tobacco products) in Aotearoa New Zealand. Aotearoa New Zealand's Ministry of Health subsequently brought legal action against PMI, arguing that the sale of HEETs was in violation of the Smokefree Environments and Regulated Products Act 1990. Eventually a district court ruled that PMI could bring their HTP to market in the country,[21] stating that the pre-existing ban on novel oral tobacco products did not extend to vaporising devices.[22] Given the strong consumer base that had built up prior to legalisation, the government was reluctant to seek a further legislative crackdown on vaping. Following this decision, many novel nicotine products, including HTP and nicotine vaping products, were brought to market in Aotearoa New Zealand. This, coupled with limited regulation of vaping product marketing in the early years of legalisation, has been associated with the rapid growth in vaping product use in Aotearoa New Zealand immediatley after legalisation.[23] It has been suggested that the wide variety of flavoured vaping products has played a part in the popularity of SNP in Aotearoa New Zealand,[24] with one cross-sectional study of smokers and former smokers in the country finding the choice and variety of flavours was a primary reason for initiating vaping.

How have smoking rates been affected by the rise in vaping?

Vaping rates were already relatively high before the legalisation of nicotine-containing vaping products, however since the lifting of the vaping ban in 2018 there has been a significant increase in the number of vapers. In 2015/2016, the current vaping prevalence among adults in Aotearoa New Zealand was 1.4%.[25] By 2018/2019, just after the legalisation of nicotine-containing vaping products, the current vaping prevalence had jumped to 3.9%.[26] As of 2022/2023, current vaping prevalence in Aotearoa New Zealand is 11.9%.[27] For context, the country's population in 2023 was 5.24 million - this equates to roughly 623,000 vapers in 2023.[28] The rise in vaping, and associated decrease in smoking, have led to vaping rates overtaking smoking rates, as shown in the above figure.

The rise in vaping rates among Maori and Pacific Peoples has far outpaced the increase in vaping among other ethnic groups in Aotearoa New Zealand, with 27.7% of Maori and 21.7% of Pacific Peoples reporting current vape use in 2022/23.[29] This is a significant increase since the legalisation of vaping, with the proportion of Maori and Pacific

Peoples who were daily vapers more than quadrupling between 2019/20 and 2022/23, compared to overall vaping rates which doubled over the same period.[30] Between 2018/19 and 2022/23, the current adult smoking rate among Maori dropped from 33.4% to 20.2%.[31] More striking is the sudden drop in smoking rates among Pacific Peoples, with the number of current smokers in this community more than halving between 2018/19 and 2022/23, dropping from 24.7% to 10.3%.[32]

What has been the role of government in regulating safer nicotine products and vaping in particular?

Aotearoa New Zealand has undergone a step change in its approach to regulating and restricting vaping products in recent years. As previously noted, nicotine vaping products were banned until 2018, although this legislation was rarely enforced and some vendors were able to sidestep enforcement to sell nicotine-containing e-liquids. Between 2018 and 2020 there was limited regulation of nicotine-containing vaping products and other nicotine vaporising products, with relatively few restrictions on vaping product marketing.[33] In 2020 the Smokefree Environments and Regulated Products (Vaping) Amendment Bill sought to bring vaping products under tighter legislative control,[34] and further in line with previous legislation controlling cigarette consumption. Requirements introduced in this act included a ban on the advertising of nicotine-containing vaping products, age restrictions and further restrictions bringing vaping under the already-enacted bans on smoking in certain public and private spaces. A tiered licensing system for retailers restricts the sale of flavoured e-liquids, with non-specialised retail outfits only permitted to sell tobacco, mint and menthol flavoured e-liquids, and specialist vaping retailers permitted to sell a limited range of other flavours.[35] Consumer advocacy groups such as Aotearoa Vapers Community Advocacy (AVCA) have been instrumental in presenting regulators with accurate and evidence-based advice, while the country's government actively listened to consumer groups and endeavoured to introduce effective regulation of SNP as the same time as seeking to dissuade young people from using these products.

the rise in vaping, and associated decrease in smoking, have led to vaping rates overtaking smoking rates

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Aotearoa New Zealand has undergone a step change in its approach to regulating and restricting vaping products in recent years

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heated tobacco products can be legally purchased in Aotearoa New Zealand, as their sale was effectively legalised in 2018 along with vaping products

Aotearoa New Zealand's government made sweeping changes to its Smokefree 2025 action plan when, in January 2023, the Smokefree Environments and Regulated Products (Smoked Tobacco) Amendment Act came into force.[36] This first-of-its-kind legislation[37] aimed to introduce a floating age restriction for tobacco products, preventing anyone born after the year 2009 from ever legally purchasing cigarettes.[38] However, following a change in government in 2023, this measure, along with plans to denicotinise tobacco products and reduce the total number of tobacco product retailers in the country, was repealed in late 2023 by the incoming administration, while some elements of this legislation were retained.[39]

A disposable vape ban was introduced by the Aotearoa New Zealand government in early 2024,[40] amid growing concern over the proliferation of these products. In effect from 1 October 2024, all vaping devices must have a removable battery, and all vaping products must comply with restrictions on flavour names.[41] Under the Smokefree Environments and Regulated Products Act 1990, vaping in public spaces is regulated in a similar manner to smoking, with vaping bans in force in certain indoor private and public spaces.[42]

Regulation of other SNP remains patchy. HTP can be legally purchased, as their sale was effectively legalised in 2018 along with vaping products. In July 2024 the excise tax on HTP was reduced by 50%, in a move designed to encourage smokers to switch and quit. In a statement, Associate Health Minister Casey Costello explained: "Vaping does not work for everyone and some attempting to quit have tried several times. HTPs have a similar risk profile to vaping products and they are currently legally available, so we are testing what impact halving excise on those products makes."[43] The sale of nicotine pouches and snus is banned, as restrictions on novel oral nicotine products remain in place. Consumers are however able to import nicotine pouches from overseas for personal use. Along with their

plans to repeal Aotearoa New Zealand's Smokefree Generation policy, the current government has now indicated that nicotine pouches and snus will be re-legalised.[44,45]

Aotearoa New Zealand's relatively pragmatic attitude to SNP in recent years is in contrast to its neighbour Australia, which has heavily restricted the availability of SNP by making vapes available only in pharmacies. It is interesting to note that, prior to 2018, nicotine-containing vaping products were also regulated as medicinal products in Aotearoa New Zealand (although no medicinal vaping products were available at that time).

The contrasting approaches taken by Australia and Aotearoa New Zealand illustrate where tobacco control measures have served to hinder or help smokers move away from combustible tobacco towards SNP. Whereas Australia has sought to greatly reduce the availability of SNP, leading to the proliferation of an illegal black market in the absence of a legal market,[46] Aotearoa New Zealand has instead, through proactive encouragement of SNP, and through regulatory oversight and broadly supportive public health messaging, enabled consumers to make positive changes to their smoking behaviour of their own volition, through the use of SNP. There is a marked difference in smoking rates between the two countries. Australia's smoking rates have plateaued in recent years, as the current smoking prevalence for Australians aged 14+ has only declined slightly from 12.8% in 2018 to 11.8% in 2023.[47] This is in contrast to Aotearoa New Zealand's decline in smoking rates over the same period, where current smoking prevalence dropped from 15.1% in 2017/2018 to 8.3% in 2022/2023.[48] It has been suggested that this slowing in Australia's smoking cessation rate is partially associated with Australia's near total ban on commercial sales of nicotine products, excluding tobacco cigarettes.[49,50] Australia's vaping prevalence has seen a significant increase over the same period, jumping from 1.4% in 2018 to 8.9% in 2023.[51]

The Director of Action for Smokefree 2025 has emphasised: "The only policy difference between Aotearoa New Zealand and Australia during this period has been that we allow nicotine vaping sales to compete with cigarettes, whereas Australia has taken a prescription model that puts much safer vaping out of the reach of most people."[52]

What have government and health organisations' messaging been around vaping for harm reduction?

In 2017, before vaping was legalised in the country, the government highlighted the contribution that vaping can play in helping to achieve a smokefree Aotearoa New Zealand by 2025, particularly in reducing the disparity in smoking rates among disadvantaged groups.[53] Aotearoa New Zealand's smokefree 2025 action plan aims to reduce smoking rates to below 5% by 2025, thereby achieving 'smokefree' status. Among the government's intentions are the elimination of inequalities when it comes to the burden of smoking-related harms, an increase in the number of people completely quitting smoking, and ensuring a smokefree generation by reducing the number of young people taking up/continuing smoking.[54]

As part of this smokefree 2025 ambition, the Ministry of Health has highlighted the role of vaping in helping smokers quit, and has provided official resources for people looking to stop smoking with the help of vaping. Smokefree New Zealand, a smoking cessation resource run by the country's publicly funded healthcare service Health New Zealand, has stated that "using vaping products is a legitimate option for those people who are trying to quit smoking".[55] The Ministry of Health of New Zealand and Health New Zealand, through the Vaping Facts website,[56] have also emphasised the Cochrane review's position that vaping is significantly safer than smoking,[57] with particular focus on the fact there is no combustion when using a vaping product and that dual use of vaping products and combustible tobacco can be a valid part of an individual's journey to smoking cessation.[58,59] The end goal, as stated by these services, is that anyone using nicotine should eventually quit nicotine use, regardless of delivery route. The government's messaging surrounding its smokefree 2025 ambition has primarily focused on preventing never-smokers from starting smoking, and helping people who smoke to quit.[60]

Another significant focus of Aotearoa New Zealand government's smokefree messaging has been tackling the wide disparities in smoking-related harms among marginalised Aotearoa New Zealander communities. While smoking rates remain high among the Maori and Pacific Peoples communities in the country,[61] vaping has likewise been adopted at a far greater pace in these communities than in the population as a whole.

While announcing a ban on disposable vaping products, due to come into effect in October 2024, Associate Health Minister Casey Costello reiterated the crucial role vaping products can play in helping people quit smoking, stating: "Reusable vapes are a key smoking cessation device and will remain available." The Associate Health Minister has also emphasised that "vaping has contributed to a significant fall in our smoking rates".[62] However the government retains concerns over youth vaping as detailed in a Cabinet discussion in June 2024.[63]

Key takeaways

Government and public health organisations, working with consumers, have highlighted the crucial role that vaping can play in achieving a smokefree Aotearoa New Zealand by 2025. The country has demonstrated its ability to effectively enact pro-consumer legislation, and its consistent endorsement of some SNP has been a key component of its stop-smoking strategy. Central to this have been consumers, who have established a demand for SNP and proven to government that these products can and will exist despite initial legislative opposition.

Aotearoa New Zealand, alongside the UK, Japan, Sweden and Norway, has added more weight to the evidence that SNP have a substitution effect in the nicotine market, such that these SNP are actively replacing cigarettes. If it continues on the track of proportionate regulation, Aotearoa New Zealand has a considerable chance of reaching its smokefree 2025 goal. On the flip side, its neighbour Australia has demonstrated the detrimental and contradictory effects of vaping prohibition on smoking rates.

Aotearoa New Zealand's smokefree 2025 action plan aims to reduce smoking rates to below 5% by 2025, thereby achieving 'smokefree' status

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the end goal, as stated by the Ministry of Health and other public health institutions, is that anyone using nicotine should eventually quit nicotine use, regardless of delivery route

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Aotearoa New Zealand has demonstrated its ability to effectively enact pro-consumer legislation, and its consistent endorsement of some SNP has been a key component of its stop-smoking strategy

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GLOBAL STATE OF TOBACCO HARM REDUCTION 2024

A SITUATION REPORT

Section Six

NORWAY

6

Report overview

The Global State of Tobacco Harm Reduction 2024: A situation report is a multi-component publication, grouped into two parts, ***Global perspectives*** and ***Regional and national insights.*** The extent to which SNP are replacing and substituting for combustible and risky oral tobacco products is the unifying theme.

Global perspectives uses the latest evidence and new data projections to report on the current global THR situation and its potential to rapidly reduce the burden of disease and mortality associated with risky tobacco use. Measuring changes in SNP uptake, policy and regulation, it considers how these factors interrelate to support or undermine progress.

Chapter One: The global smoking epidemic and the role of tobacco harm reduction
Chapter Two: The evidence for tobacco harm reduction
Chapter Three: Global progress in tobacco harm reduction
Chapter Four: Global regulation and control
Chapter Five: The challenges to tobacco harm reduction
Chapter Six: Conclusions

Regional and national insights considers the status of tobacco use and THR at the regional or national level. The document you are about to read, **How snus is replacing smoking in Norway: a revolution led by consumers and product innovation**, is one of four profiles of countries that have enabled THR to drive down smoking rates. Similar profiles for **Aotearoa New Zealand, Japan**, and the **UK** are also available. A broader regional focus is applied to **Latin America** and **Eastern Europe and Central Asia**.

GLOBAL STATE OF TOBACCO HARM REDUCTION 2024

A SITUATION REPORT

Section Six

Norway

Section Six

How snus is replacing smoking in Norway: a revolution led by consumers and product innovation

Introduction

While neighbouring Sweden has become one of the world's most renowned case studies showcasing THR's potential to end cigarette use, Norway has also seen smoking rates crash alongside the dramatic rise in the use of snus, which is now the most prevalent tobacco product in the country and this Country Profile explores the story of its success.

What is the history of tobacco use in Norway?

People have been smoking tobacco in Norway since the sixteenth century,[1] although the mass spread of cigarette smoking didn't begin until the early 1900s.[2] Daily smoking rates in the country peaked at 65% for men, in the late 1950s, and at 37% for women, in 1970.[3]

But non-combustible forms of tobacco also have a long history in Norway. The most prominent example of these is snus which has been used in the country for more than 200 years (see Chapter 2 of this report for further details about the relative safety of snus compared to smoking). Snus has been the most common type of smokeless tobacco used in Norway since the Second World War, but prior to that plug tobacco for chewing had been the most popular tobacco product, peaking at a market share of 60%.[4] While snus has been banned throughout the European Union, except for Sweden, since 1992, it is legal to use in Norway as the country is not a member of this organisation.

snus has been the most common type of smokeless tobacco used in Norway since the Second World War

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in the mid-1960s, the Norwegian parliament began investigating what could be done to reduce the health problems caused by tobacco use

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Norway was one of the first countries to ban the advertising of tobacco products

What impact has smoking had on the health of Norwegians?

Despite cigarette use falling for more than 50 years, a 2015 study found that smoking was still responsible for 20% of all premature deaths before the age of 70 in Norway.[5] Other research from the same year estimated that around 6,300 people died each year because of tobacco-related diseases.[6] It was found that tobacco smoking

caused an estimated 13% of deaths in Norway for people over the age of 35 in 2009.[7] And while lung cancer mortality rates for men have been declining since 2011, they were still increasing for women in 2013[8] before peaking in 2018.[9] A study also revealed that more than 8 in 10 lung cancer cases among women in Norway could have been avoided if those individuals did not smoke.[10]

What has been done to address the use of tobacco products in Norway?

In the mid-1960s, the Norwegian parliament began investigating what could be done to reduce the health problems caused by tobacco use. The result of this work was the Norwegian Tobacco Act, which came into force in 1975, and the country has been a leading force in tobacco control policies ever since.[11] Indeed, the Norwegian Health Directorate states on its website that it is "considered a country with restrictive tobacco legislation"[12] and it is ranked in the top five in Europe for the robustness of its tobacco control.[13]

Among other things, the 1975 Act required compulsory health warnings on all tobacco products and introduced a minimum age limit of 16 years for the purchase of tobacco products. This legislation also made Norway one of the first countries to ban the advertising of tobacco products.[14]

In 1988, the Norwegian Parliament passed a new section to the Tobacco Act which banned smoking in areas that were accessible to the public, as well as work areas where two or more people were gathered.[15] Then, in 1989, it brought in a general ban on the import and sale of all novel tobacco and nicotine products, though this did not include snus. Over the next few years, restrictions on smoking in restaurants, bars and cafes were introduced, with smoking only permitted in two-thirds of these venues, while the Tobacco Act was strengthened to ensure tobacco products, including snus, could only be bought by those aged 18 or over. A freephone quit line was also launched.

Then, in 2004, Norway became only the second country, after Ireland, to bring in a national smoking ban. This means smoking is prohibited in both workplaces and public places,[16] with exemptions for some private clubs where food is not served.[17] It should be added that vaping is currently subject to the same restrictions as smoking, so this includes a ban on indoor use.[18] Norway was also the first country to ratify the Framework Convention on Tobacco Control (FCTC), which entered into force in 2005.[19]

From 2010, tobacco products could no longer be displayed at points of sale, and, in 2018, Norway was the first country to introduce plain packaging regulations for snus.[20] This legislation covers all tobacco products, including cigarettes, and it means they can no longer feature the manufacturer's logo or colours. Instead, all tobacco product packaging now has a standardised colour and brand names must be written in a generic delete style.[21] All tobacco products, including snus, must also carry health warnings.[22]

vaping is currently subject to the same restrictions as smoking, so this includes a ban on indoor use

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all tobacco product packaging now has a standardised colour and brand names must be written in a generic delete style

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all new tobacco and nicotine products must be approved by the Norwegian Directorate of Health before they can be sold in the country

What safer nicotine products are available in Norway?

While snus can be bought legally, not all safer nicotine products are available in Norway. It is currently illegal to manufacture or bring into the country anything other than what is referred to as "traditional tobacco or nicotine products". These are defined as cigarettes, cigars, cigarillos, smoking tobacco, chewing tobacco and the aforementioned snus.[23]

Indeed, all new tobacco and nicotine products must be approved by the Norwegian Directorate of Health before they can be sold in the country.[24] At the time of writing, while a handful of applications from nicotine pouch and heated tobacco product manufacturers have been submitted to the Directorate, none have yet been approved, meaning they are effectively banned in Norway.[25] The nicotine pouch applications were refused due to fears they could appeal to young people.[26] But a strange legal quirk means nicotine pouches that contain a small amount of tobacco can circumvent

the rules that would normally prevent them being imported.[27] These pouches can be bought legally as they come under existing Norwegian legislation that permits the sale of snus.

The situation with vaping is complicated. It is currently prohibited for companies to import, manufacture, and sell nicotine-containing vaping products in Norway,[28] a consequence of regulations enacted in 1989 that banned new nicotine and tobacco products.[29] This remains the case today even though the Norwegian Parliament voted to lift the ban on nicotine vapes back in 2016, a change that was meant to come into force in parallel with Norway's planned adoption of the EU's Tobacco Product Directive (TPD). This postponement in implementation is due to the necessity for the TPD to first be negotiated into the European Economic Area (an agreement of the internal market relations between Norway, Iceland and Liechtenstein on one side and the EU on the other) and this negotiation has not yet taken place. The general ban on the import and sale of novel tobacco and nicotine products was, however, technically lifted in July 2021 and replaced by an approval scheme, largely based on Article 19 of the TPD. But as this is a transitional arrangement, the ban was continued for nicotine-containing vapes.[30]

This is set to change in 2025, when the expected implementation of the TPD will see new regulations come into force that legalise the sale of vapes containing nicotine.[31,32] As part of this legislation, manufacturers and importers will have to register their products with the Norwegian Medical Products Agency six months before they can be sold to consumers in the country.[33] These changes also mean vaping products will be required to have standardised packaging.

vapes containing any flavours other than tobacco cannot be sold, and this legislation will also apply to nicotine vapes once they become legal

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people who use nicotine vapes as smoking cessation tools can currently legally import these products from abroad for their own personal use

Despite the ban on nicotine vapes in Norway, a relatively small number of domestic shops selling devices and e-liquids that contain no nicotine do exist. Until recently, they could sell nicotine-free vapes that contained a wide range of flavours, including fruit, berries, coffee and dessert. But since July 2024, as part of changes to the Tobacco Damage Act, vapes containing any flavours other than tobacco cannot be sold, and this legislation will also apply to nicotine vapes once they become legal. This is significant because around 80% of those who vape use the types of flavours that have been banned.[34]

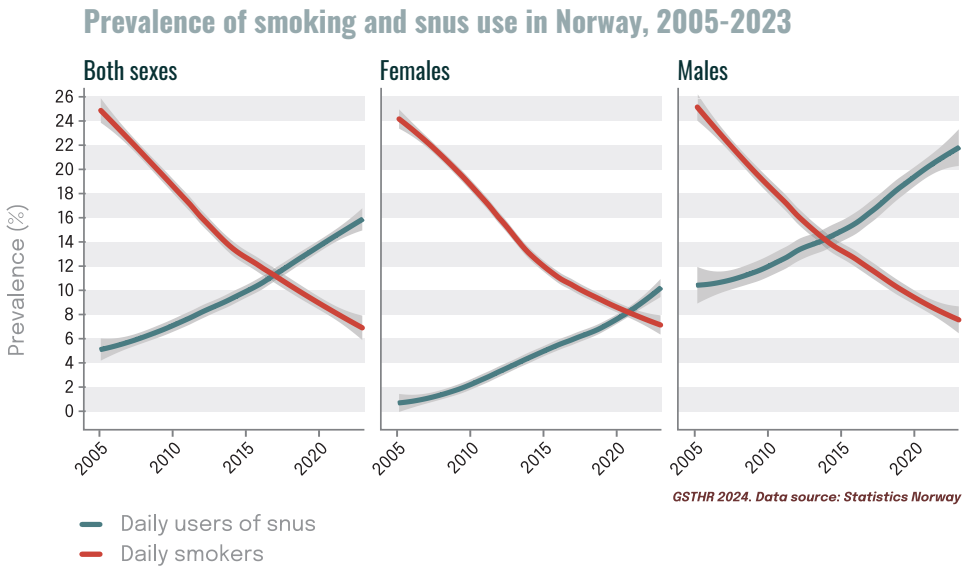
But while Norwegians are not able to use nicotine-containing vapes for recreational use, it should be noted that people who use nicotine vapes as smoking cessation tools can currently legally import these products from abroad for their own personal use.[35] It is estimated that 80 per cent of the e-liquids used by people who vape in Norway are imported from retailers abroad and over the internet.[36] It is reported that around 150,000 people use vapes, of whom 97% were current or former smokers.[37] Other research, from the Norway Institute of Public Health revealed that between 2017 and 2022, 0.9% of those aged 16-74 were vaping daily, while 2% sometimes vaped.[38]

What proportion of adults use snus and how have smoking rates changed?

Figures from Statistics Norway show that increasing snus use over the last few decades has coincided with a dramatic fall in the country's smoking rates. In 2023, only 7% of Norwegians aged between 16 and 74 smoked daily, including just 3% of those aged 16-24.[39] And while 12% of 55-64-year-old women, and 14% of men in the same age group, still smoke, among younger Norwegians smoking has all but disappeared. Just 2% of women aged 16-34 and only 4% of 16-24-year-old men smoked daily in 2023.

To put this into a historical context, the adult daily smoking rate was six times higher forty years ago, when nearly half of them smoked. In 1973, 42% of Norwegians aged between 16 and 74 smoked every day, including 50% of those aged 25-34. This rose to 59% for men aged 45-54 and 46% for women aged 25-34.

Looking at the use of snus, there has been a significant change during the last two decades. In 2005, 5% of Norwegians aged between 16 and 74 used snus daily. Fast forward to 2023 and the figure for that group more than tripled, with 16% using snus daily. This means twice as many people now use snus compared to cigarettes (16% vs 7%), with highs of 34% among 25-34-year-old men, and 23% for women in the same age group.



It is worth noting that 2017 was the first year when there were more daily snus users than people who smoked cigarettes.[40] In 2017, while 11% of Norwegians aged between 16 to 74 smoked cigarettes each day, the number of daily snus users was recorded at 12%. Dual use of cigarettes and snus does occur, but it has been found to be quite rare. One study revealed that while 6.8% of men used both concurrently, only 1% reported a daily consumption of both products.[41]

Why have people in Norway increasingly taken to snus?

Following the publication of two separate reports from the US Surgeon General and the UK's Royal College of Physicians, linking smoking to lung cancer during the 1960s,[42] awareness of the dangers of smoking were growing throughout the world. In Norway, thanks to its early adoption of various tobacco control measures, an increasingly hostile environment towards the use of cigarettes had been developing since the 1970s, with the socio-cultural stigmatisation of smoking. And, with a succession of legal changes in the 1980s and 1990s, restricting the number of places where people could smoke, an opportunity arose for another tobacco product to emerge as a safer and more acceptable alternative to cigarettes.

While the long history of snus use in Norway meant it had the potential to be a replacement for combustible cigarettes, it wasn't until the late 1990s, when less harmful forms of the product became available, that it started to become a more attractive prospect, and the emergence of low-nitrosamine snus during this period was followed by a marked increase in the use of this SNP. This change was first seen among men, although women subsequently followed suit, and a 2014 research paper from Ingeborg Lund and Karl Lund found that while the sales of cigarettes had fallen as snus use rose, there was no increase in the overall consumption of tobacco, suggesting that "the strong inverse association between snus use and cigarette smoking might be causal".[43]

These new snus products not only had lower levels of major carcinogens such as tobacco-specific nitrosamines and polycyclic aromatic hydrocarbons. There was also a shift in the type of products on the market, with the now familiar snus pouches taking over from the loose version that came before.[44] The new form of snus didn't require spitting, was more convenient for users and also came with a wider range of added flavours. This was likely to have made the product attractive not only to those

twice as many people now use snus compared to cigarettes in Norway

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"the availability of snus might have produced a shift in tobacco preferences and contributed to lower smoking initiation among young adults, particularly males"

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snus's growth had nothing to do with marketing since it is covered by the ban on tobacco advertising that came into force in the 1970s

who smoked, but also people who wanted to use nicotine but had not previously used tobacco.[45] Indeed, the 2014 paper from Lund & Lund suggests that one reason for the "increased market share for snus and the reduced market share for cigarettes could be that snus attracts tobacco-prone youth who otherwise would have started to smoke".[46] Put a different way in another paper, "the availability of snus might have produced a shift in tobacco preferences and contributed to lower smoking initiation among young adults, particularly males".[47] The popularity of snus pouches was such that by 2020, loose snus accounted for only 5% of the snus market, a big drop from 54% in 2005.[48]

It is worth noting that snus's growth had nothing to do with marketing since it is covered by the ban on tobacco advertising that came into force in the 1970s. But one study suggests snus "emerged as a realistic alternative to conventional cigarettes because of its ability to deliver nicotine without the combustion and the toxicants in tobacco smoke, the fact that snus can be used in smoke-free places, the competitive price and the perceived potential for harm reduction".[49] It goes on to say that "snus has contributed to a decrease in cigarette consumption through three mechanisms: as a method of smoking cessation; as an alternative product for new generations of tobacco-prone youth who otherwise would take up smoking; and as an alternative to cigarettes for smokers who are unwilling or unable to quit smoking altogether". In places where smoking is restricted or prohibited, the discreet use of snus by people who smoke could ease withdrawal symptoms or perhaps ultimately encourage a full switch away from cigarettes to snus.[50]

This widespread availability of snus could have reduced smoking rates by "aiding transfer to a less harmful form of nicotine dependence", another study suggests.[51] It says this claim is "supported by findings suggesting snus to be a commonly used and often preferred method for smoking cessation and that snus use may increase the probability of successful smoking cessation compared to medical nicotine products". It adds that the largest group of snus users in the country comprises people who used to smoke, and other research has found that "switching to snus seems to be the most effective and efficacious method for quitting smoking in Norway".

Snus is seen as a viable option for people who smoke because it delivers a similar amount of nicotine to combustible cigarettes.[52] For many, including younger people, snus may be a more attractive option than cigarettes, as it allows nicotine consumption without the smell associated with cigarettes. It can also help avoid exposure to the cold temperatures common in Norway, as snus can be used indoors, while those who smoke can only do so outside bars and restaurants.

As mentioned above, snus use can also reduce the expenditure for those who smoke, with a tub of snus costing around 80 kroner, while a packet of 20 cigarettes costs roughly 140 kroner.[53] At least part of the pricing advantage of snus comes from the fact many snus users in Norway have been buying their products in Sweden where prices have been lower. This led to pressure on the Norwegian Government to lower the tax applied to snus by 25% in 2021 in a bid to reduce the price differential between the two countries and stimulate sales in Norway.[54]

The Norwegian Government has therefore taken positive steps to make snus more affordable. But this comes against a backdrop which has seen Norway's health authorities advising against the use of snus as a smoking cessation tool, alongside warnings that snus is not a safe alternative to cigarettes.[55] It should also be noted that the introduction of plain packaging for all tobacco products, including snus tubs, is further representative of wider efforts "towards the long-term aim of a tobacco-free society"[56], efforts that result in all tobacco products appearing to be treated equally, irrespective of their relative harms. And a Government White Paper for the period 2018-2019 revealed one aim for 2021 was that "the use of snus among young people should not increase".[57]

Takeaways

Norway's status as an early adopter of many of the tobacco control laws that are now increasingly common throughout Europe meant it had a head start in the fight to bring down smoking rates. The increasing stigmatisation of smoking laid the groundwork for another product to step into the place of cigarettes and Norway's long cultural association with snus meant it had the potential to fill this role. Crucially, Norway was not subject to the EU-wide ban on snus, but the rise of this SNP was only made possible thanks to innovations which made it safer and easier to use, and therefore more attractive to those who smoked. A desire to move to a safer form of nicotine, and the fact snus could be used in places where smoking was banned, meant an increasing number of people made the switch away from cigarettes.

Snus use has almost wiped out smoking among the young in Norway, and it is also likely to have diverted away many of those who would have smoked from using cigarettes. But while it is widely acknowledged as an safer nicotine product, it has not received an endorsement from a Norwegian Government keen to see all types of tobacco use come to an end. The Government mostly treats snus in the same way it does smoked forms of tobacco, but consumers have made the switch on their own, choosing to embrace tobacco harm reduction in a bid to significantly improve the health of themselves and those around them.

Crucially, in the words of Karl Lund: "The long-term availability of low-nitrosamine snus in Norway […] serves as an example of what might happen on the nicotine market if a low-risk tobacco product is allowed to compete with cigarettes."[58]

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GLOBAL STATE OF TOBACCO HARM REDUCTION 2024

A SITUATION REPORT

Section Seven

UNITED KINGDOM

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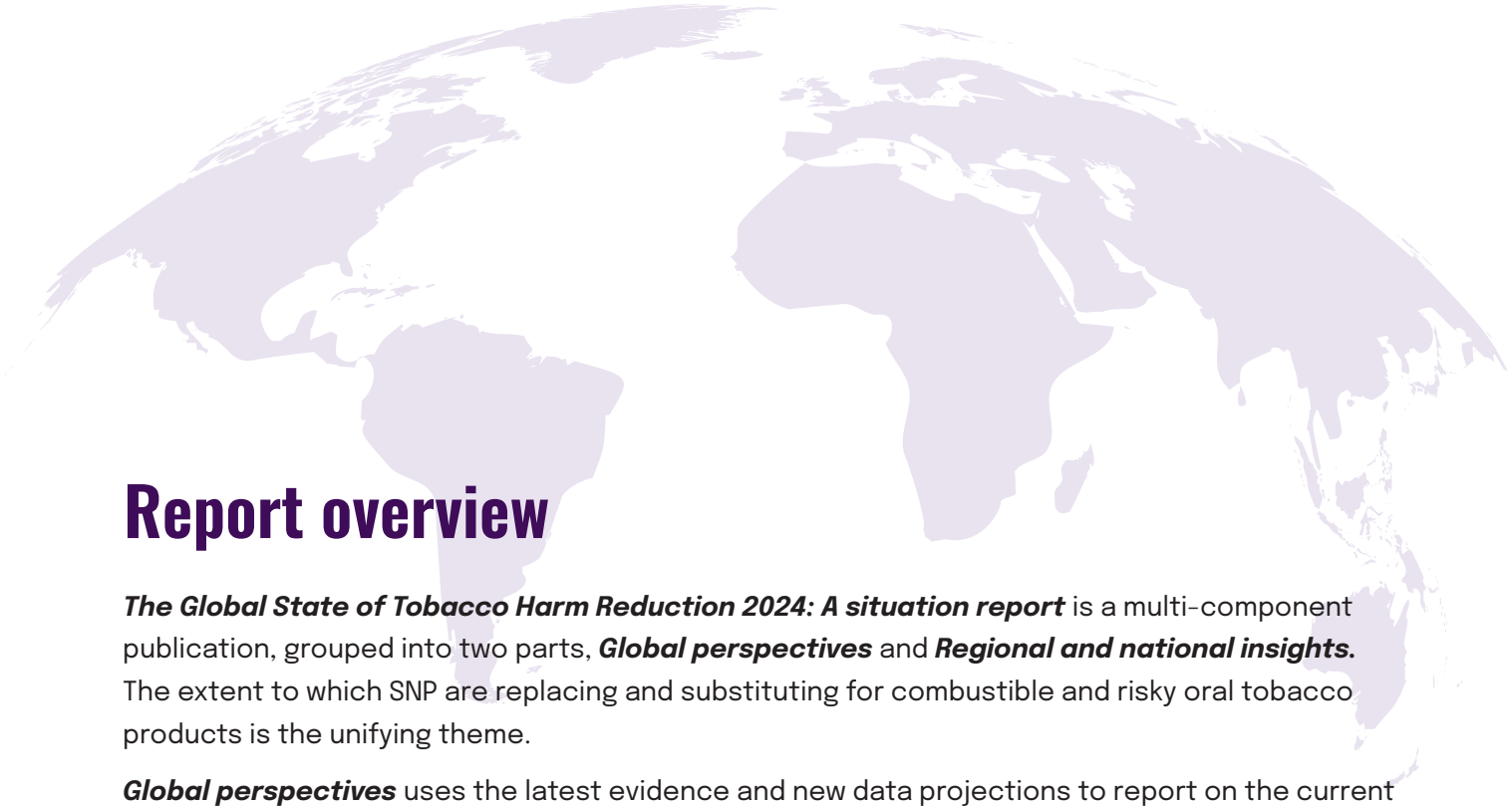

Report overview

The Global State of Tobacco Harm Reduction 2024: A situation report is a multi-component publication, grouped into two parts, ***Global perspectives*** and ***Regional and national insights.*** The extent to which SNP are replacing and substituting for combustible and risky oral tobacco products is the unifying theme.

Global perspectives uses the latest evidence and new data projections to report on the current global THR situation and its potential to rapidly reduce the burden of disease and mortality associated with risky tobacco use. Measuring changes in SNP uptake, policy and regulation, it considers how these factors interrelate to support or undermine progress.

Chapter One: The global smoking epidemic and the role of tobacco harm reduction
Chapter Two: The evidence for tobacco harm reduction
Chapter Three: Global progress in tobacco harm reduction
Chapter Four: Global regulation and control
Chapter Five: The challenges to tobacco harm reduction
Chapter Six: Conclusions

Regional and national insights considers the status of tobacco use and THR at the regional or national level. The document you are about to read, **A smokefree UK? How research, policy and vapes have cut smoking rates**, is one of four profiles of countries that have enabled THR to drive down smoking rates. Similar profiles for **Aotearoa New Zealand, Japan** and **Norway** are also available. A broader regional focus is applied to **Latin America** and **Eastern Europe and Central Asia**.

GLOBAL STATE OF TOBACCO HARM REDUCTION 2024

A SITUATION REPORT

Section Seven

UK

Section Seven

A smokefree UK? How research, policy and vapes have cut smoking rates

Introduction

In line with many other high-income countries, smoking rates in the United Kingdom, once some of the highest in the world, have been falling for decades. The UK was the country where key research demonstrating the link between smoking and lung cancer was first undertaken and published. But, while Government was initially slow to respond to the challenges of smoking, by the 2000s the UK was acknowledged as a global leader in tobacco control. More recently it has also been at the forefront of ambitious plans to achieve 'smokefree' status via a range of initiatives including the use of vapes to help people to quit smoking. This Country Profile explores the UK's progress towards becoming smokefree, highlighting both the successes and the challenges.

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it is estimated by the UK Government that around 80,000 people die every year in the country due to smoking

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smoking is also estimated to cost the NHS and the economy around £17 billion a year

What is the history of tobacco use in the UK and what impact has it had?

The UK has a long history with tobacco, dating back to the 1500s.[1] The earliest methods of consuming tobacco involved the use of pipes, though snuff (a powdered form of tobacco that was inhaled through the nose) and cigars were also popular before the introduction of machine-rolled cigarettes in the late 19th century.

By 1948, 82% of men in Britain were smoking some form of tobacco.[2] This is reported to be the highest smoking prevalence recorded in the UK and it included pipes, cigars and cigarettes, with the latter being the most common (65%).[3] In the same year, 41% of women smoked tobacco, with most using cigarettes.

Two years later, in 1950, the UK was the country where the link between smoking and cancer was first established. Following a significant increase in the number of deaths attributed to lung cancer in the country, epidemiologists Sir Richard Doll and Sir Austin Bradford Hill carried out studies which confirmed cigarettes were the cause.[4] This was followed just over 10 years later, in 1962, by the publication of the Royal College of Physicians' landmark report "Smoking and Health" which used Doll and Hill's data.[5] Arriving at a time when the dangers of smoking were little understood by the public, it was the first report published anywhere in the world to widely publicise information about the negative effects of smoking on health, and it is considered to be a turning point in the history of public

health in the UK.[6] Its significance was underscored three years later, in 1965, when it was revealed the UK had the highest lung cancer death rate of any major country, with smoking being responsible for nearly 50% of the deaths of men in middle age.[7]

In 1974, the Government began collecting data on smoking prevalence in the UK as part of the General Household Survey (since renamed the General Lifestyle Survey).[8] Compiled by the Office for National Statistics, it shows that smoking rates in 1974 were 51% for men and, again, 41% for women. This was a significant fall from the 1948 peak, and the subsequent 50 years of the survey reveal there has been a steady downward trend in smoking rates in the UK.[9]

But even with cigarette use falling, the effects of smoking continue to be significant. It is estimated by the UK Government that around 80,000 people die every year in the country due to smoking.[10] The Government also says that smoking is both one of the main causes of health inequalities in the UK, with the harm being concentrated in some of the country's most disadvantaged communities,[11] and the largest preventable cause of death and serious disability.[12] Cancer Research UK states that nearly three in every four lung cancer cases in the UK are caused by smoking (72%).[13]

While the rate of deaths attributable to smoking in England has decreased in recent years, from 244 per 100,000 between 2013 and 2015, to 202 per 100,000 between 2017 and 2019,[14] smoking continues to have a substantial impact on the National Health Service (NHS). Looking again at just England, in 2019 to 2020, there were around 506,000 smoking-related admissions to hospital, or roughly 1,400 per day,[15] and those who smoke see their GP 35% more than those who do not.[16] Smoking is also estimated to cost the NHS and the economy around £17 billion a year.[17]

What safer nicotine products are available in the UK and how have they fared so far?

Nicotine replacement therapies (NRT) were the first alternatives to emerge and have been an option for those looking to quit smoking in the UK since the 1980s.[18] The initial products made available were nicotine chewing gums before nicotine patches arrived in 1992.[19] NRT products were officially licensed for harm reduction in the United Kingdom in 2005[20] and now gums, patches, nasal and mouth sprays, inhalators, tablets, oral strips and lozenges can be bought from pharmacies and some shops. NRT products are also available on prescription from doctors or NHS stop smoking services,[21] and the UK NRT market was worth €165.4 million in 2019.[22]

Nicotine vapes arrived in the UK around 2005,[23] a couple of years after they had been invented in China. Some of those who had previously failed to quit smoking became early adopters of these emerging vaping products.[24] Long before any tobacco industry involvement, the UK vaping community was growing rapidly. In-person vape meets and shows started to take place, while users could discuss kit, flavours and modding (modifications to devices) in multiple online forums and discussion boards that told the stories of lives improved by switching to vaping (see Chapter 2 of this report for further details about the relative safety of vaping compared to smoking).

To begin with, nicotine vapes were regulated as consumer products in the UK.[25] This meant they were subject to existing product safety legislation enforced by Trading Standards. But, in 2010, the UK's Medicines and Healthcare Products Regulatory Agency (MHRA) opened a consultation on bringing vaping devices within the medicines licensing regime.[26] Fearing that the licensing of vaping products as medicines would effectively remove them from the market, more than a thousand people who vaped submitted responses to the consultation and the following year the MHRA announced its intention to take no further action regarding the status of vaping products, while committing to further research and assessment.[27] In 2015, it became illegal to sell vapes to anyone under the age of 18, under the Nicotine Inhaling Products (Age of Sale and Proxy Purchasing) Regulations.[28] Then, in 2016, the regulation of vapes came under the Tobacco and Related Products Regulations, which implemented, in full, the

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European Union Tobacco Products Directive from two years earlier.[29] These controls included minimum standards for the safety and quality of all e-cigarettes and refill containers, as well as advertising restrictions, and by 2015, just 10 years after they had become available, 2.6 million people were using vapes[30] as part of a consumer-led movement that was revolutionising nicotine use in the country.

Around this time, heated tobacco products (HTP) were introduced to the UK. HTP are regulated as novel tobacco products in the UK and are subject to certain requirements under current tobacco legislation, including sale to over 18s only.[31] Despite being popular in some parts of Europe and Japan, these products have so far not played a significant role in helping people to switch away from smoking. This could be because they are also subject to the same advertising and display bans as combustible cigarettes, a potentially serious issue for a new product entering the market. Indeed, an evidence review from 2017 found that awareness and ever use of HTP in the UK was "very rare"[32] and they remain a small player in the country, arriving as they did after nicotine vapes had become established.

Nicotine pouches have an even shorter history as they first entered the UK market in 2019,[33] and, like vapes in the period immediately following their arrival in the UK, nicotine pouches are only subject to consumer product safety regulations. Among other things, this means there are currently no age-limit requirements regarding their sale and they can be bought by those under 18.[34] This looked set to change after the previous Conservative Government launched its Tobacco and Vapes Bill in 2023, which stated nicotine pouches would be outlawed for children,[35] and at the time of writing it is not known if the new Labour Government will continue with these plans. But looking at the most recent available data, a 2022 survey revealed that 3.9% of adults in Great Britain had tried nicotine pouches, and only 0.7% were current users, while 48% of adults had never heard of them.[36] Other research confirms the uptake of pouches is relatively low, but it did find usage among UK adults doubled between November 2020 and October 2021, going from 0.14% to 0.32%.[37]

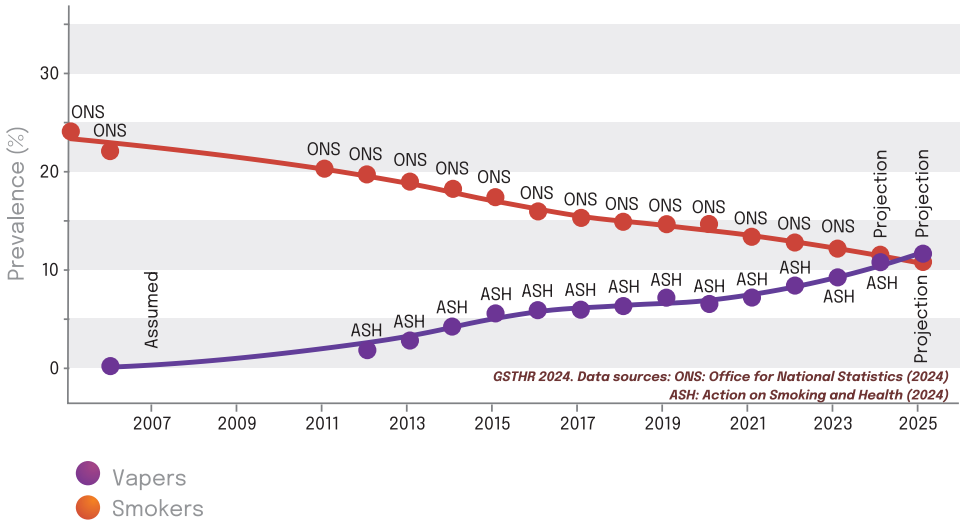
The only major SNP that cannot be bought or sold in the UK is snus. Particularly popular in Scandinavia, snus has been banned throughout the EU, except Sweden, since 1992,[38] a move that came in response to the controversy surrounding the UK launch of a brand of moist smokeless tobacco. Called Skoal Bandits, this particular product was similar to snus as it comprised small pouches of moistened, powdered chewing tobacco.[39] But unfounded fears linking it with mouth cancer, together with concerns it was being targeted at teenagers, led to a UK ban on such products, which was then mirrored by the EU banning snus.[40] At the time of writing, this remains the case, even though the UK is no longer part of the EU, and the previous Conservative Government's proposed Tobacco and Vapes Bill sought to retain the ban.

How have smoking and vaping rates changed during the last 10 years and why have people switched?

While smoking rates have been falling since the Government started collecting data in 1974, nearly a quarter of UK adults were still smoking when vapes first became available in 2005 (23.7%).[41] Ten years later, in 2015, 5.4% of UK adults were vaping[42] and 17.2% of adults were smoking.[43] By 2015, half of those who were smoking at that time had used vapes.[44] Then, as the proportion of adults vaping rose by one third to 7.1% in 2019, the prevalence of smoking fell again to 14.5%. By 2022, figures showed that 8.7% of the population, or 4.5 million people, were vaping,[45] while the number who were still smoking reached its lowest level ever, totalling 12.9% of adults, or 6.4 million people. This means that the proportion of adults who smoke in the UK has nearly halved since vaping became an alternative for those looking to switch.

The latest data, from August 2024, show the proportion of adults vaping has increased again, to 11%, or 5.6 million people.[46] These figures come from a survey conducted on behalf of Action on Smoking and Health (ASH), which also found that more than half of those who gave up smoking in the previous five years said they had used a vape in their last quit attempt. This amounts to 2.7 million people.

Prevalence of smoking and vaping in UK, 2006-2025



Our own projections, based on ONS and ASH data, show that the proportion of adults smoking in the UK will continue to drop to just above 10% by 2025, a year in which the proportion of adults vaping is forecast to exceed the number who smoke for the first time.

An evidence review on vaping in England, commissioned by the Office for Health Improvement and Disparities (OHID) in 2022, found that vaping products were the most common aid used by people to help them to stop smoking.[47] It also revealed that in stop smoking services in the period 2020 to 2021, quit attempts that involved a vape were associated with the highest rates of success (64.9% compared with 58.6% for those attempts that did not involve a vape). It is worth noting that this report also found fruit flavours were the favourite option for most current vapers (35.5%), while 22.5% preferred menthol/mint flavours.

Another ASH survey, from 2023, provides some insight into why people vape in the UK.[48] The top reason given by those who used to smoke was that vaping helped them to quit cigarettes (31%). This was followed by those who said vapes helped them to prevent a relapse to smoking (22%), while 14% enjoyed the experience and 12% said they wanted to save money. Indeed, while both cigarettes and vapes are subject to VAT at 20%, the tobacco duty on a packet of 20 cigarettes is currently 16.5% of the retail price plus £6.33.[49] This is in contrast to vapes which currently have no additional duty applied to them. The VAT for vapes regulated as medicines would be theoretically reduced to 5%,[50] though no medicinally licensed vapes are currently on the market.

Research from 2019 found that people who completely switched from smoking cigarettes to using vapes could save around £780 a year.[51] It should be noted, though, that before they lost the election in July 2024, the former Conservative Government had proposed to introduce a new tax on vapes "intended to discourage young people and non-smokers from vaping, while maintaining the current financial incentive to choose vaping over smoking".[52] Under these plans, the price "increases in line with the strength of the liquid, so that products in the highest strength band are progressively more expensive, when compared to low or nicotine-free products. The products remain significantly cheaper than tobacco products in equivalent quantities".

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For those who continue to smoke cigarettes, ASH's survey found they mainly vaped to cut down on smoking (19%) or to try to help them quit (17%). Meanwhile, among those who had never smoked, respondents said they mostly vaped as they enjoy the experience (39%) while 27% said it was just to give vapes a try.

Other research found that 59% of those who smoked and had taken up vaping did so to decrease the amount of cigarettes they smoked, while 49% said a key reason for them starting vaping was to help them stop smoking.[53] This survey about the UK vaping market, commissioned by HM Revenue and Customs, also revealed that 37% vaped as they considered it to be a healthier alternative to smoking.

How has the UK approached tobacco control?

Despite being at the forefront of research revealing the harms of smoking during the second half of the 20th century, the UK's approach for much of the time up until the 1990s was one of limited policy intervention.[54] There were certain developments, though, such as the banning of cigarette commercials on television in 1965 and a steady increase in the taxes imposed on cigarettes.[55] In 1984, a National No Smoking Day was launched to encourage people to quit smoking and, in 1999, local stop smoking services were established in England as part of the Government's commitment to help smokers to quit. These services are reported to have helped more than four million people to successfully quit for at least four weeks.[56]

A year earlier, the UK had taken one of its most significant step so far to address the issue of tobacco consumption with a 1998 Government white paper titled "Smoking kills" that proposed what it called "the most comprehensive strategy to tackle smoking embarked upon anywhere in the world".[57] Key measures included: an end to tobacco advertising, promotion and sponsorship; a £60 million investment in new NHS services to help people to quit smoking; a week's free NRT on the NHS, with starter packs of nicotine replacement therapy being made available, free of charge to the worst off, alongside "specialist support to help motivated quitters get on the fast-track to giving up for good"; and changes to pubs and restaurants to introduce facilities in these venues for both those who smoked and those who did not.

But it was not until the mid-2000s that any significant tobacco control measures were introduced. The Smoking, Health and Social Care (Scotland) Act 2005 and The Prohibition of Smoking in Certain Premises (Scotland)

Regulations 2006 came into effect in March 2006, which, for the first time, prohibited smoking in certain public places in Scotland which were 'wholly or substantially enclosed', including the majority of workplaces.[58] England, Wales and Northern Ireland introduced similar legislation shortly after.

During the next couple of decades, as people switched from smoking to vaping in increasing numbers, the UK also achieved a steady reduction in smoking prevalence using a range of policy tools to bring about the denormalization of tobacco. These included "measures dealing with price, promotion, education and health warnings, plain packaging, and the regulation of ingredients, sales, who can smoke and where they can smoke".[59] These changes combined to help the UK lead the recent rankings of the European Tobacco Control Scale, alongside Ireland and France.[60]

It should also be noted that in 2019 the Conservative Government announced a bold ambition to become 'smokefree' by 2030.[61] This would be achieved if adult smoking prevalence fell to 5% or less. The new Labour Government will also pursue the previous administration's plans to make UK the first country in the world to progressively raise the age at which people can buy cigarettes, meaning those born after January 1, 2009 would never be able to purchase them legally.[62] This would also apply to HTP. It appears that the new Labour Government similarly will adopt the previous administration's plans to deter youth use of vapes by increasing enforcement on under-age sales and introducing powers to restrict flavours, as well as banning disposable vapes and increasing taxes on vapes.[63]

What role have the Government and NHS played to encourage the uptake of vaping?

The UK Government has not only taken steps to help people to stop smoking, it has also increasingly embraced the potential of vaping as a safer product for those people who want to switch away from cigarettes but are either unwilling, or unable, to stop using nicotine.

A year after the first vape-friendly local stop smoking service was launched in 2014 by Louise Ross, the then manager of Leicester Stop Smoking Service,[64] a key development was the landmark independent evidence review published by OHID's predecessor, Public Health England (PHE), that concluded nicotine vapes were around 95% less harmful than smoking.[65] Now referenced around the world as the foremost example of the relative safety of vaping, this 2015 report concluded vapes had the potential to help people quit smoking, as well as finding no evidence that vapes acted as a route into smoking for children or those who did not already smoke. In the decade that followed, annual evidence reviews have demonstrated the initial findings remain unchanged, and both the Government and the NHS have launched, or provided funding for, a series of initiatives to encourage people to switch from smoking to vaping.

One of these was the Stoptober campaign which included vapes in its advertising for the first time in 2017.[66] Originally launched in 2012, by PHE, Stoptober aimed to inspire people who smoked to make a quit attempt from October 1 and maintain it for at least 28 days. Then, in 2018, PHE called for vapes to be available on prescription, adding that hospitals should be able to sell vapes and have areas where patients could vape.[67]

A year later, vape shops opened in two NHS hospitals in the West Midlands.[68] Run by Sandwell and West Birmingham Hospitals NHS Trust, both sites also allowed the use of vapes as long as this took place away from doorways, despite smoking on the premises resulting in a £50 fine.

In 2021, the Medicines and Healthcare products Regulatory Agency (MHRA) published updated guidance that paved the way for medicinally licensed e-cigarette products to be prescribed to those who wished to quit smoking, meaning England would become the first country in the world to prescribe vapes licensed as medical products,[69] though, at the time of writing, no vaping products that have been licensed as stop

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smoking medicines are currently on the market in the UK.[70] They are also not available on prescription from the NHS or from a General Practitioner, but local stop smoking services may offer a free vaping starter pack.

Also in 2021, a new trial launched by the University of East Anglia, and funded by the National Institute for Health Research (NIHR), saw vaping starter kits being given to people who smoked when they attended hospital emergency departments.[71] This initiative followed updated evidence from the Cochrane Review, led by the University of Oxford, which showed that nicotine vapes were more effective than NRT in helping people to stop smoking for at least six months.[72] That year also saw another NIHR-funded study investigate whether vapes could help people experiencing homelessness to quit smoking. This project, run by researchers from University College London and London South Bank University, aimed to find out whether supplying free vaping starter kits at centres for people experiencing homelessness could help to reduce the high rates of smoking seen in this population.

Then, in 2023, in one of its most radical steps yet, the Government announced that one million people who smoked would be encouraged to switch from cigarettes to vapes.[73] As part of the 'swap to stop' campaign, a world-first national scheme, around one fifth of those who smoked would be provided with a vape starter kit, alongside behavioural support, to help them quit.

Alongside these Government initiatives, the NHS provides a wealth of evidence-based advice to those who smoke about the relative safety of vapes compared to cigarettes. As well as stating that nicotine itself is "not very harmful and has been used safely for many years in medicines to help people stop smoking", national and local NHS websites advise people in the UK that "nicotine vaping is substantially less harmful than smoking" and is "one of the most effective tools for quitting smoking".[74] The NHS does say that vaping is not completely harmless and it only recommends vapes for adults who smoke to help them quit cigarettes. But it adds that vaping "exposes users to far fewer toxins and at lower levels than smoking cigarettes", and states "switching to vaping significantly reduces your exposure to toxins that can cause cancer, lung disease, and diseases of the heart and circulation like heart attack and stroke". The NHS is also clear that the full benefits of vaping are only achieved by those who manage to stop smoking cigarettes completely.

Takeaways and look to the future

While smoking rates had been falling in the UK for many decades, the near 50% reduction in the proportion of adults who smoke that has taken place since vapes were introduced to the country shows the positive potential of tobacco harm reduction. The UK experience adds further evidence that when appropriate, acceptable SNP, such as vapes, are made accessible and affordable, those who smoke will make the choice to switch to them in increasing numbers.

Consumers have led this dramatic growth in vaping, but the Government has, to date, also played a role by publishing the science on the safety of vapes relative to smoking, as well as both endorsing and promoting their use as a smoking cessation tool. The UK has to a large extent, so far, avoided the moral panics about vaping that have influenced political decisions in some countries, and has not experienced the degree of anti-vaping rhetoric and policy influence of prominent but ill-informed philanthropic foundations that has affected other parts of the world.

The UK experience also adds to the evidence from Japan, Sweden, Norway and New Zealand of substitution effects in the nicotine market, showing that vapes are replacing cigarettes. Indeed, our projections suggest that as the number of people who smoke continues to decline, the proportion of the adult population that vapes will exceed those who are smoking by 2025.

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