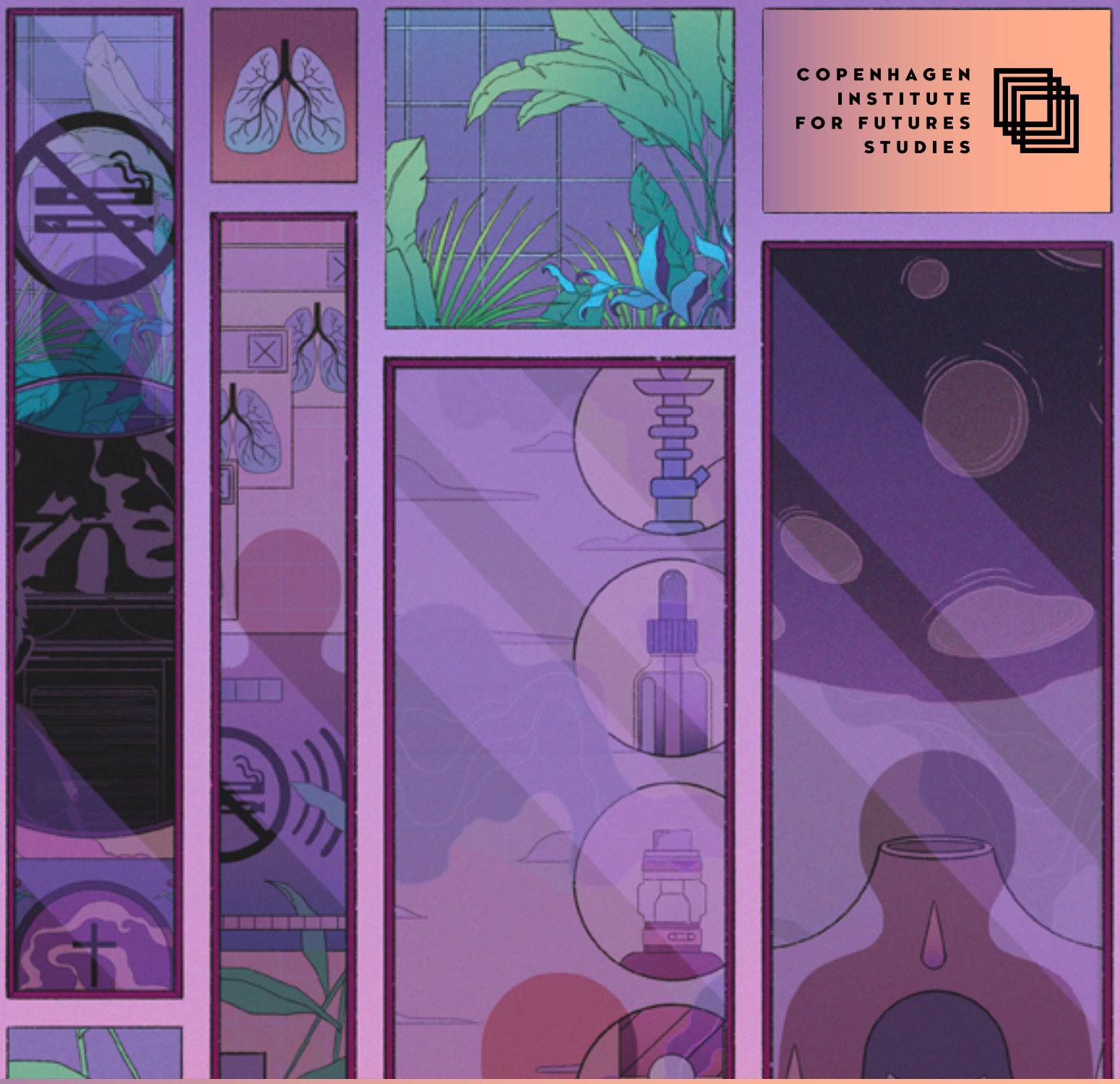

COPENHAGEN INSTITUTE FOR FUTURES STUDIES

The Future of Chronic Respiratory Diseases (CRDs) and Nicotine Consumption

BEYOND SMOKE AND MIRRORS

Disclosures

This report was commissioned by Sanofi and Regeneron.
The Copenhagen Institute for Futures Studies (CIFS) independently conducted the research, expert interviews, workshop facilitation, and the development of all scenarios and recommendations. While Sanofi and Regeneron provided financial support, CIFS maintained full editorial independence. Neither the Copenhagen Institute for Futures Studies nor Sanofi and Regeneron have any affiliation with the tobacco or nicotine industry.

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Content

Foreword

Over the past decade, Chronic Respiratory Diseases (CRDs) have silently claimed millions of lives, placing an immense strain on health systems worldwide. As the third leading cause of death globally, conditions like Chronic Obstructive Pulmonary Disease (COPD) and asthma continue to escalate significantly, driven by the evolving landscape of nicotine consumption. Now is a critical moment to reassess how we prevent and manage CRDs, before the challenges deepen further.

This report represents the first comprehensive application of strategic foresight to the intersection of CRDs and nicotine use. By bringing together expert voices and rigorous scenario planning, it explores four plausible futures and charts a course toward the one we must strive for.

In convening global stakeholders from clinicians and patient advocates to policymakers and behavioural scientists, the Copenhagen Institute for Futures Studies (CIFS) has leveraged desk research and interactive workshops to map the key uncertainties shaping our trajectory. The resulting narratives do more than describe potential worlds, they offer early warning signals, tipping points, and concrete trade-offs that demand our attention today. Whether it is the promise of breakthrough cessation treatments, the threat of tobacco industry interference, or the power of youth-led activism, each scenario underscores the urgency of sustained, coordinated action.

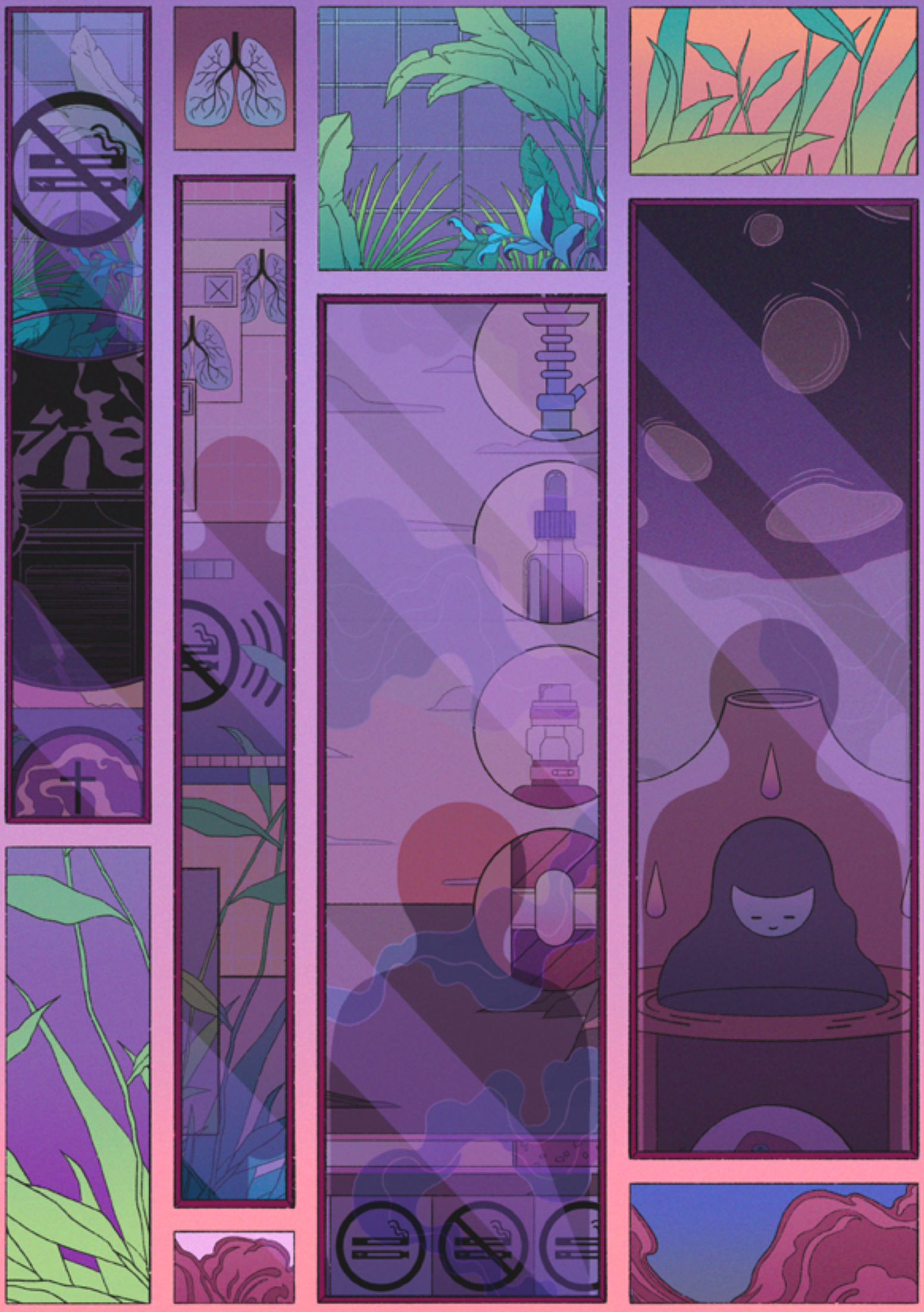
The timing of this work is no coincidence. CRDs already affect at least 550 million adults every single day, yet they remain too often invisible in global health discussions. This report arrives at a moment when we still have time to shape the future, but only if we act urgently. This work contributes to building momentum ahead of the upcoming United Nations High-Level Meeting in New York in September 2025. As world leaders prepare to draft a new political declaration on non-communicable diseases, there is a narrow but vital window to ensure that people living with CRDs are not only recognised but meaningfully included in the commitments that will define the coming decades.

At the same time, policymakers are debating a possible global target: 150 million fewer tobacco users by 2030, a goal that may or may not be formally adopted in the coming months. The same global targets call for reducing the number of tobacco users from 1.3 billion in 2025 to 850 million by 2040 – a drop of 150 million every five years. To reach this goal, action must begin immediately. Delaying action risks slowing progress, making tobacco use harder to reverse, and missing a critical opportunity to protect millions of lives. What-ever the outcome, we need to plan for futures in which we not only meet that benchmark but surpass it, while also preparing for scenarios in which progress stalls, so our strategies remain both ambitious and resilient.

As you explore these four futures, ranging from an "Endgame Generation" triumph to the stark warning of an "Ashtray Planet", you hold in your hands both a mirror and a compass. Let this work inspire you to look beyond the conventional, to engage with uncertainty as opportunity, and to champion the strategic actions that will safeguard respiratory health for generations to come.

The time to act is now.

Head of Health
ARON SZPISJAK
Copenhagen Institute for Futures Studies



Introduction

The Burden of Chronic Respiratory Diseases (CRDs)

CRDs remain a major under-addressed global health challenge. As the third leading cause of death worldwide, CRDs such as Chronic Obstructive Pulmonary Disease (COPD) and asthma continue to impose a significant burden. COPD alone affects 212 million people and caused 3.3 million deaths in 2021[1], yet public awareness of the condition remains low.

CRD DEATH PREVALENCE OVER THE LAST 2 DECADES

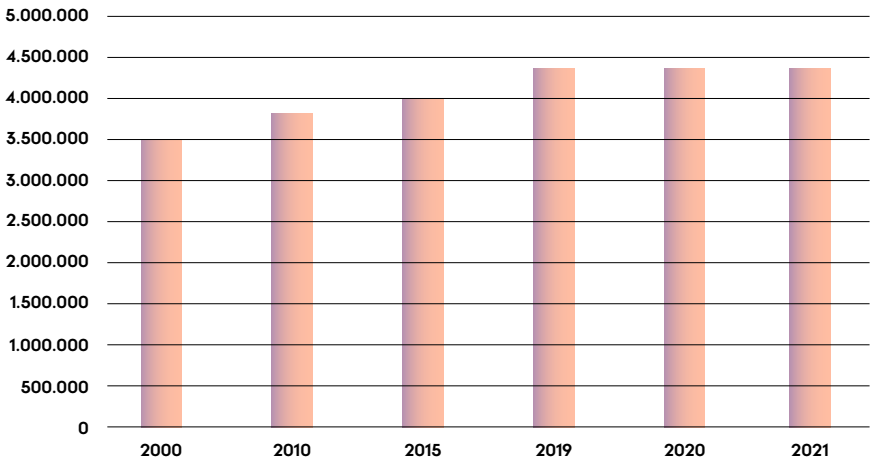


Figure 1: Number of deaths attributable to CRDs over 2000–2021 [2].

The impact is especially severe for vulnerable populations. Over 90% of premature CRD deaths occur in low- and middle-income countries, where underdiagnosis and limited access to treatment contribute to a cycle of preventable harm.[3] For example, in a school-based survey of 27,272 adolescents across six sub-Saharan African countries, 3,236 (11.9%) reported wheezing in the past 12 months, an indicator of asthma symptoms. Of these symptomatic adolescents, only 644 (19.9%) had a formal clinical diagnosis of asthma, meaning that 2,592 adolescents, approximately 80.1% of symptomatic teens, were never diagnosed with asthma[4].

CRD DEATH PER CAPITA GLOBALLY 2021

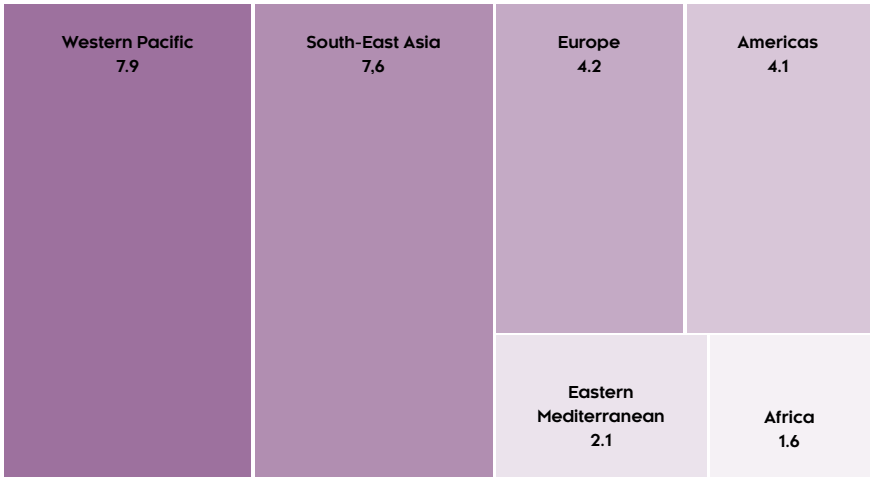


Figure 2: Number of CRD deaths per 100,000 people by region in 2021 [5].

However, we already have the solutions to prevent this cycle. Reducing smoking, exposure to tobacco smoke, household and ambient air pollution[6], as well as occupational hazards such as dust and chemicals, could significantly lower the incidence of CRDs and improve quality of life for millions.

Global Smoking Trends and Health Implications

Tobacco remains the leading preventable risk factor for COPD, lung cancer, and tuberculosis deaths, contributing to over 8.7 million deaths annually, including 1.3 million from second-hand smoke[7]. The economic burden is also significant: COPD is projected to cost the global economy over INT$4.3 trillion between 2020 and 2050 in lost productivity and healthcare costs, with the highest burdens in China and the United States[8].

NUMBER OF DEATHS GLOBALLY BY VARIOUS CAUSES IN 2021

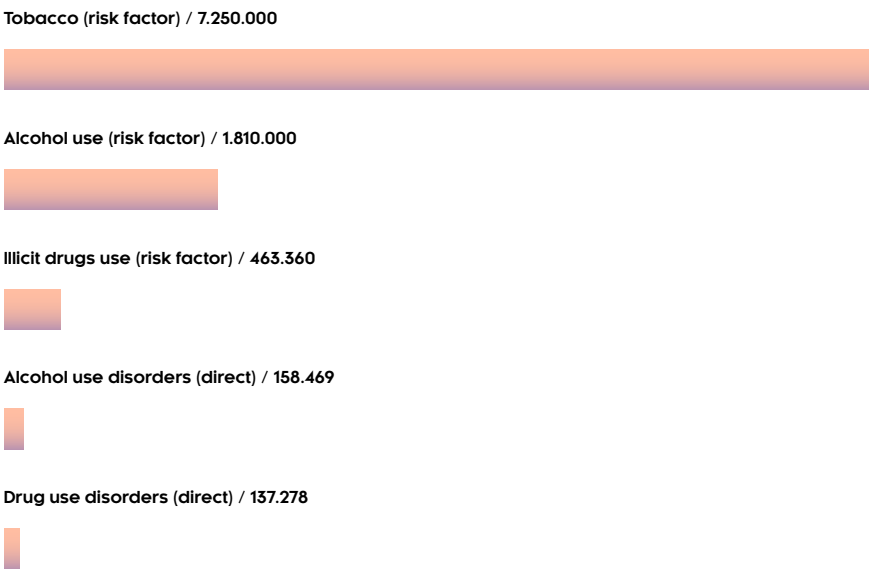


Figure 3: Deaths attributed to tobacco, alcohol and drugs in 2021 [9].

While global smoking rates have fallen from 22.7% in 2007, the progress remains insufficient. Today, around 1.3 billion people, 20% of the world's adult population, still use tobacco, with the majority living in low- and middle-income countries. If current trends continue, male smoking prevalence is forecasted to remain at 30.6%, and female prevalence at 5.7% by 2030[10], far from achieving the World Health Organisation's (WHO) target of a 30% reduction by 2025. High smoking rates jeopardise the progress toward Sustainable Development Goal 3.4, which aims to reduce premature mortality from non-communicable diseases by one third by 2030.

The Rise of New Nicotine Products

While conventional smoking is slowly declining, nicotine consumption is rapidly evolving. New products such as e-cigarettes, heated tobacco, and nicotine pouches are gaining popularity, particularly among young people. The global vape market was valued at USD 28.17 billion in 2023 and is projected to grow at a compound annual growth rate (CAGR) of 30.6%, reaching approximately USD 182.84 billion by 2030[11]. According to the WHO, 74 countries have no regulations in place, while 88 countries have no minimum age for buying e-cigarettes[12]. In the WHO Europe region, among 15-year-olds, 20% reported vaping in the past month, surpassing cigarette use[13].

A key regulatory challenge is the rapid proliferation of flavours, with more than 15,000 currently on the market[14]. Certain ingredients, including cinnamaldehyde[15] and vanillin[16], benzaldehyde, diacetyl, and 2,3-pentanedione, have been linked to harmful respiratory and cardiovascular effects, including lung inflammation and impaired immune responses[17].

In parallel, the uptake of heated tobacco products (HTPs) and nicotine pouches has accelerated. Aerosol from HTPs contains toxic substances, including acrolein, which can cause blood vessel damage and lung inflammation[18]. Additionally, nicotine pouches' growing popularity is especially evident among younger users, with usage among 16–24-year-olds tripling between 2021 and 2024 in the UK[19].

Emerging evidence highlights significant health risks associated with newer nicotine products. A longitudinal study by Oxford University demonstrated that vaping doubles the risk of developing COPD, even in the absence of prior smoking[20]. Dual use of cigarettes and e-cigarettes further increases health risks, particularly for cardiovascular and pulmonary outcomes. As nicotine use continues to evolve rapidly, swift and decisive actions are needed to prevent its harmful effects.

Public Health Impacts and Policy Challenges

The coexistence of traditional, new and emerging nicotine products creates substantial regulatory complexity. However, policy approaches vary widely. New Zealand's groundbreaking "Smokefree Generation" law, which would have banned cigarette sales to anyone born after 2008, was repealed in March 2024[21]. It is estimated that this law could have averted at least 6,500 smoking-attributable deaths[22]. Conversely, the UK is in the process of adopting a phased generational ban, raising the minimum legal purchase age by one year annually[23], Australia enforces prescription-only access to vapes, while Brazil and India maintain outright bans.

Meanwhile, the tobacco industry has rebranded itself around "smoke-free futures" and is lobbying for lenient taxation of HTPs and resisting flavour bans.[24] Without coordinated, coherent global regulation, youth access, dual use, and product normalisation are likely to persist.

The Urgency for Action

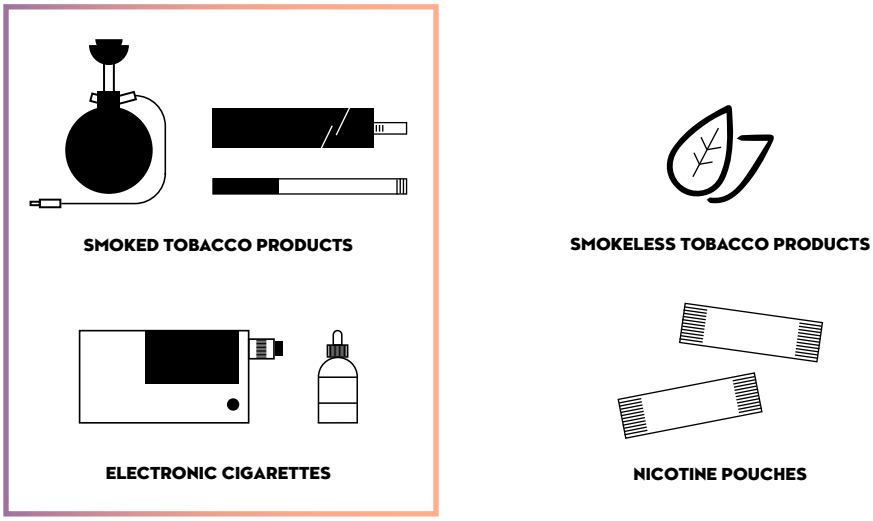
Projections suggest that halving global smoking prevalence by 2030 could avert 150 million life-years lost by 2050. Delaying action until 2030 would erase half of those potential gains[25]. Simultaneously, unchecked growth in alternative nicotine usage risks renormalising addiction and reversing gains in tobacco control.

However, the future of nicotine use is still unfolding, and it depends on the actions we take today. Strategic foresight offers a critical framework for anticipating shifts, identifying emerging threats, and enabling responsive, evidence-based policymaking. Connecting insights across product innovation, marketing practices, social norms, and regulatory landscapes is essential to shaping effective responses to the harms of nicotine, including tobacco products. Immediate priorities include:

- Strengthening tobacco control and preventing expansion into vulnerable markets.
- Closing regulatory gaps for new nicotine products, especially those targeting youth.
- Centring clean air and occupational safety in CRD prevention strategies.
- Ensuring universal access to diagnosis, treatment, and cessation support.

Timely, coordinated action can change the trajectory. Inaction risks locking in a new generation of nicotine dependence and undermining global health goals, including SDG 3.4. The opportunity to intervene is still within reach, but only if we act now.

SCOPE OF THIS REPORT



TOBACCO PRODUCTS
Products fully or partly made of tobacco

Smoked Tobacco Tobacco products that produce inhalable smoke, including cigarettes (manufactured and roll-your-own), shisha, cigars, cigarillos, bidis, kreteks, and heated tobacco products (HTPs). HTPs: Battery-powered devices that heat tobacco to create an inhalable aerosol.	**Smokeless Tobacco** Non-smoked products held in the mouth, chewed, applied to gums, or sniffed. Includes chewing tobacco, snuff, nasvai, gutka, mishri, and snus.

NICOTINE-CONTAINING PRODUCTS
Products containing nicotine (from any source), including nicotine salts

Electronic Cigarettes Battery-powered devices that vaporise a nicotine-based liquid for inhalation.	**Nicotine Pouches** Small pouches filled with nicotine powder, placed in the mouth.

Figure 5: Overview of inhaled nicotine products discussed in this report[26].

This report specifically concentrates on inhaled nicotine and tobacco products due to their direct impact on lung health and their significant contribution to the burden of CRDs. When we refer to **"nicotine products"** throughout the report, **we encompass both tobacco-containing products intended for inhalation**, such as cigarettes, cigars, and heated tobacco products, **as well as newer, non-tobacco nicotine delivery systems** like e-cigarettes and vaping devices. This choice reflects the fact that tobacco inherently contains nicotine and acknowledges that the future landscape of nicotine delivery may include novel formats beyond what currently exists.

It is important to acknowledge that tobacco and nicotine use, in all its forms, including smokeless tobacco and oral nicotine products, pose significant health risks beyond respiratory conditions, contributing to cardiovascular, neurological conditions, and cancers, among others. However, given the extensive range of products and the specific objectives of this report, our primary emphasis is on inhaled products and their implications for lung health.

Additionally, this report does not address nicotine replacement therapies (NRTs) such as patches, gums, lozenges, or inhalers designed for smoking cessation. These therapeutic products, while containing nicotine, are regulated differently and thus excluded from the scope of this report.

Methodology

The future is inherently unpredictable and multiple. Interacting forces can converge in unexpected and nonlinear ways, producing surprising outcomes. Recognising that no single projection can definitively determine what lies ahead, scenario development offers a disciplined means of extending strategic sightlines and examining emerging possibilities.

Scenario planning invites organisations to examine the present through the lens of potential futures rather than merely extrapolating the future from current conditions. By combining structured analysis with compelling storytelling, it enables sectors to explore alternative operating contexts and to provoke decisionmakers to reassess entrenched assumptions and act with greater foresight. The approach broadens strategic horizons and supports the design of strategies that remain resilient under divergent future states.

Adopting an outside-in perspective, scenario planning focuses on changes in a sector's external environment, including outcomes that manifest 'beyond the numbers' and trace their implications for the transactional landscape and subsequent strategic choices. The method is both explorative and deductive: it derives coherent, plausible futures from systematic examination of driving forces, key strategic questions, and critical uncertainties. CIFS anchors the process in cocreation and inclusive participation, following a defined, multistep framework.

The foresight engagement described here was implemented in a two-phase approach. Phase 1 combined desk research and expert interviews. Phase 2 comprised two co-creation workshops that convened more than 20 tobacco-control specialists from Africa, Europe, the Middle East, North America, South America, and Southeast Asia. Participants were selected both for the relevance of their expertise and to ensure a diversity of viewpoints – an essential ingredient in rigorous strategic foresight and scenarioplanning exercises.

Scenario Shaping Based on Critical Uncertainties

The CIFS project team and the participating experts jointly identified a set of critical uncertainties assessed as having the greatest potential impact on the future of chronic respiratory diseases and nicotine consumption. These uncertainties were further developed to highlight two sets of opposing, but plausible future conditions termed "polarities," which were then later applied as the conceptual framework for four distinct scenario narratives.

To generate the evidence base for this report, including identifying critical uncertainties, desktop research and expert interviews were complemented with an AI model built by the CIFS team. The retrieval augmented generation (RAG) model included 4000 peer-reviewed articles and policy documents stored in a Pinecone dense vector index for sub-second semantic search. To ensure the integrity of the evidence base, all references cited in this report were reviewed to verify funding sources and identify any conflicts of interest, with studies linked to the tobacco industry excluded.

We then applied clustering means to isolate five themes matching our key research questions: current CRD trends, global smoking prevalence, uptake of new nicotine products, public health impacts/policy, and the case for strategic foresight. This RAG workflow ensured coverage of all five focal areas with inline traceable citations to up-to-date science. Together with expert interviews, this provided a strong basis for identifying trends and critical uncertainties shaping the future CRDs and nicotine.

Workshop 1

IDENTIFYING CRITICAL UNCERTAINTIES

POLARITY A	TOPICS	POLARITY B
Accelerating Decline	**Global Cigarette Smoking Prevalence**	Stagnation or Regional Plateau
Successful Implementation	**Bold "Tobacco Endgame" Strategies**	Policy Reversals and Black Markets
Strong Deterrent	**UltraHigh Tobacco Taxes and Price Measures**	Regressive Outcomes
Convergence on Best Practices	**Global Divergence in Policy Approaches**	Patchwork of Opposing Regimes
Social Denormalization	**Growing Public Stigmatisation of Smoking**	Resistance and Subcultures
Reduced Dual Use	**Dual and PolyTobacco Users**	MultiProduct Normalisation
Nuanced Acceptance	**Evolving Perceptions of Vaping's Health Risks**	Backlash and Fear
Breakthrough Therapies	**Development of Novel Cessation Tools**	Marginal Improvements
Widespread Adoption	**Plain Packaging, Graphic Warnings, and Mandatory Labelling**	Limited or Repealed Measures
Effective Flavours Ban	**Regulation of Menthol, Flavours, and Additives**	Unintended Consequences
Targeted Interventions	**Increasing Focus on Socioeconomic and Regional Disparities**	Persistent Inequities
Effective Harm Reduction*	**Rapid Rise in Smoke-Free Nicotine Products**	Entrenched Nicotine Dependence
Embrace of Safer Alternatives	**Shift Toward Harm Reduction* Policies**	Restrictive or Prohibitionist Stance
Data-Driven Policy	**Digital Health and Surveillance Technologies**	Privacy Concerns and Uneven Access
Transition to Reduced Risk Model	**Tobacco industry Evolution and Corporate "SmokeFree" Pivots**	Predatory Expansion

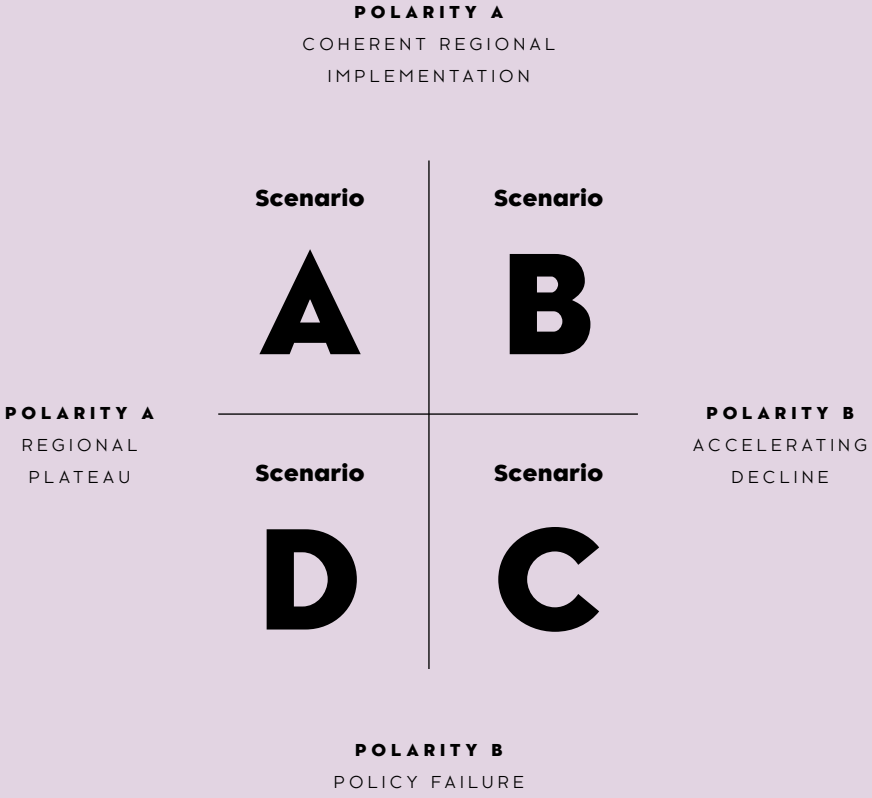
Scenario Narratives

To develop the scenario narratives, the polarities were placed into a two-by-two grid. They are positioned as the overriding dynamics that have a strong influence on the content of each of the scenarios, while allowing the remaining uncertainties to influence the scenarios.

From Impact–Uncertainty Matrix to Scenario Axes

In Workshop 1, the critical uncertainties were mapped on an impact versus uncertainty matrix. **'Bold "Tobacco Endgame" Strategies'** and **'Global Cigarette Smoking Prevalence'** emerged as both *highest impact* and *highest uncertainty*. These two dimensions, therefore, formed the vertical and horizontal axes of the 2 × 2 scenario grid, structuring the four narratives for the future.

HORIZONTAL Global Cigarette Smoking Prevalance
VERTICAL Tobacco "Endgame" Strategies



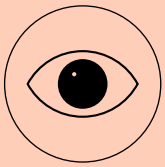
In the first scenario (A), Global cigarette smoking remains high in some regions, while declining in others despite coherent regional implementation of tobacco "endgame" strategies. In scenario B, tobacco "endgame" strategies are implemented and have successfully reduced global cigarette smoking prevalence. In both scenarios C and D, there is global policy failure to reduce smoking prevalence, but in scenario C, cultural shifts powered by grassroot organisations change the perception of smoking and thereby cause a decline in cigarette smoking prevalence.

*** Note on terminology:** Although the term harm reduction was used among the uncertainties, some experts highlighted its association with tobacco industry narratives. However, such policy trajectories reflect real-world trends, such as those seen in the UK, where the government is promoting smoke-free nicotine products as public health tools. This made it a relevant uncertainty when assessing whether other governments may adopt similar approaches, regardless of underlying tobacco industry influences.

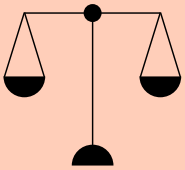
Workshop 2

VALIDATING THE FUTURES

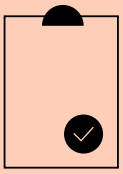
During Workshop 2, participants revisited the four draft scenarios to explore them through three analytical lenses:



Early warning signs
weak signals and lead indicators suggesting that a particular future trajectory is beginning to unfold.



Tipping points
Threshold events, policy shifts, or technological breakthroughs capable of rapidly moving the system from one quadrant to another.



Strategic trade-offs
Choices stakeholders may face when objectives clash across scenarios.

Preferred Scenario & Pathways to 2040

Following a structured analysis of all four scenarios, Scenario B emerged as the preferred future through group consensus. Discussion therefore shifted from exploring possibilities to charting a route toward that outcome. Participants mapped out how different stakeholders might contribute:

- Early initiatives that healthcare providers could champion to steer practice and treatment standards.
- Campaign and support strategies patient advocacy networks might adopt throughout the 2020-30s.
- Actions tobacco control coalitions could take in the years leading up to 2040 to maintain pressure and momentum.
- Accountability mechanisms capable of curbing harmful tobacco industry behaviour and limiting negative externalities.

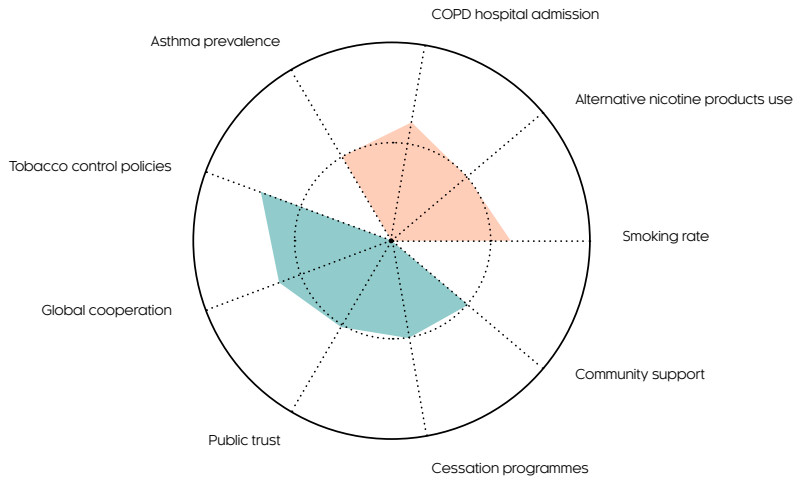
This collective backcasting clarified practical milestones, sequencing, and responsibility sharing turning the preferred scenario into a concrete pathway for action.

SCENARIOS

The strategic foresight process resulted in the following four distinct scenario narratives. To help the readers engage with these alternative futures, we will be following how 3 personas' lives evolve in each scenario by 2040.

Mila, born in 2025 in a low-income country in the Western Balkans, is 15 years old in 2040. She develops asthma in all the scenarios, but the timing of her diagnosis and the quality of care she receives vary significantly. **Minh**, born in 2008, grew up during the early rise of vaping. He is 32 by 2040 and lives in a middle-income country in Southeast Asia. His relationship with nicotine, ranging from addiction to cessation, plays out variously depending on the regulatory and social environments around him. **Eileen**, born in 1975 and 65 years old in 2040, lives in a high-income country in Oceania. She has COPD, but the way it affects her life depends greatly on the availability of care, support, and stigma in each future.

SCENARIO A
The Air is always Cleaner on the Other side



SCENARIO B
Endgame Generation

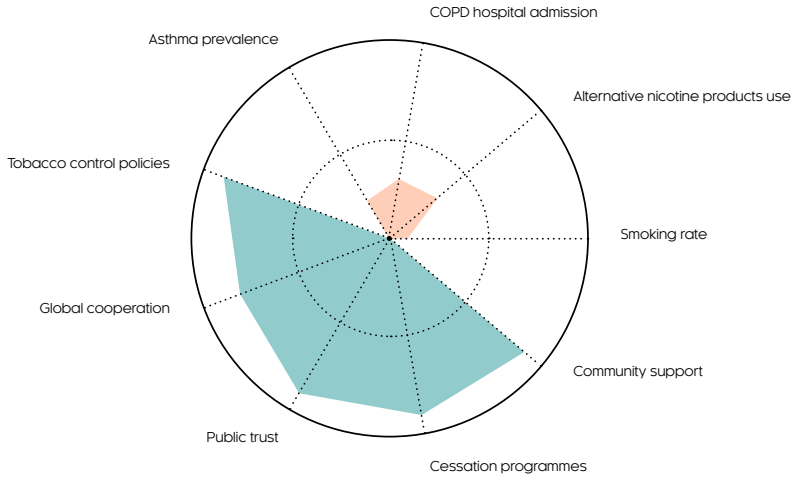
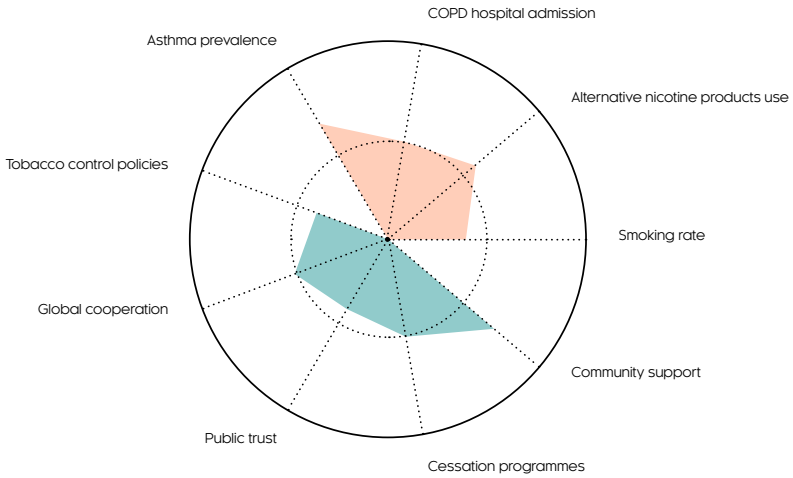


CHART NAMES	INDICATOR DESCRIPTION
Global Cooperation	Global multilateral cooperation
Tobacco Control Policies	Strong and effective tobacco control policies
Cessation Programs	Access to effective cessation programs
Community support	Strength of community support
Public trust	Perceived societal credibility of public health and policy

SCENARIO C
Rebellion in the Ruins



SCENARIO D
The Ashtray Planet

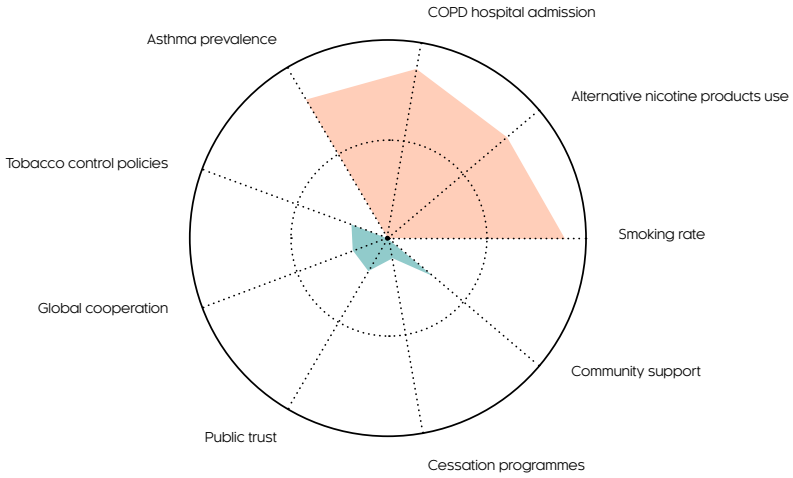


CHART NAMES	INDICATOR DESCRIPTION
Smoking Rate	Global smoking rate
COPD Hospital Admission	Number of COPD hospital admissions per 100,000 population per year
Asthma prevalence	Asthma prevalence (including undiagnosed cases) in children (5–17 years)
Alternative nicotine products use	Alternative nicotine products use rate

SCENARIO

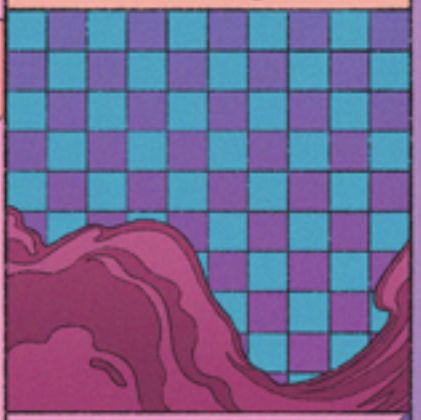
The Air is always Cleaner on the Other side

By 2040, national frameworks and global agreements are aligned on paper, creating a sense of progress and shared commitment. Strong, evidence-based tobacco control policies have contributed to declining smoking rates across many countries. However, beneath the surface, reality unfolds differently. Outcomes remain uneven, shaped by deep societal divides, historical mistrust, and the varying ability of regions to adapt policies to local realities.

Some regional alliances, such as the Nordics, have implemented coherent strategies to limit and prevent nicotine use. In these areas, tobacco control has delivered consistent results over time. The decline in smoking is visible, trust in health institutions remains relatively strong, and people feel part of a longer journey toward better health.

In contrast, progress is slower in many underserved regions, both within and between countries. Smoking remains common in homes, public spaces, and community gatherings. Newer nicotine products are normalised by peer culture and strategic marketing. Youth in these regions are often aware of the risks but feel disconnected from the institutions that promote cessation. For them, nicotine use is a form of coping. Prevention campaigns feel irrelevant, distant, or patronising. Although cessation services may technically exist, they are poorly integrated into daily life, and often culturally out of touch. Access is limited, trust is low, and people do not feel that the system understands or supports them.

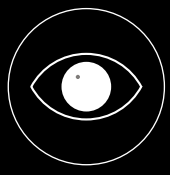
Even when governments act quickly to counter emerging tactics of the tobacco industry, such as banning flavoured products and restricting marketing, these measures are often perceived as government overreach, restricting personal freedom and choice. The arrival of new nicotine products and the often centralised, top-down way they are addressed tends to create frustration. Messages from health authorities are met with scepticism, especially where communities feel excluded from decision-making. Trust is further eroded in places where surveillance systems are introduced to track real-time sales or social media trends. These systems, although intended to strengthen prevention, are sometimes viewed as invasive or punitive.



Key characteristics and assumptions

- Policies are strong on paper, but implementation is regionally fragmented.
- Public trust shapes effectiveness, especially with newer nicotine products.
- Youth use nicotine for coping rather than rebellion, despite being well informed.
- School-based prevention and parental modelling vary widely by region.
- Tobacco industry exploits policy gaps through lifestyle marketing and peer-driven influence.

Signals of change to monitor

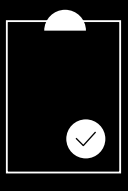


- Increasing prevalence and regional spread of youth-led digital advocacy campaigns on respiratory health and tobacco/nicotine issues.
- Widening or narrowing disparities in asthma and COPD outcomes linked to clean air policy implementation and integration of respiratory health into school health programs.
- Shifts in the roles of teachers, parents, and peer networks in normalising or discouraging nicotine use among youth
- Fluctuations in social media narratives around quitting smoking/vaping versus the glamorisation of nicotine products.
- Emergence of tobacco industry workarounds to regulation, including the use of influencer marketing and platform-specific strategies that exploit regulatory grey zones.

Tipping points

- Youth empowerment reaches a critical mass when trusted platforms protect against misinformation, triggering rapid norm shifts in nicotine use and prevention.
- Integration of tobacco control into broader health and environmental agendas (e.g. clean air, urban planning) creates a multiplier effect, amplifying impact and accelerating policy uptake.
- Global-local alignment hits a tipping point when flexible frameworks enable local adaptation without fragmenting overarching strategy coherence.

Trade-offs



- Top-down enforcement can improve short-term compliance but risks social backlash and resistance when local legitimacy and trust are lacking.
- Cultural relevance and co-creation enhance long-term policy traction but slow down implementation timelines, requiring patience and sustained engagement.
- Globally aligned strategies enhance consistency and international momentum, but may reduce room for local nuance, limiting effectiveness in diverse cultural contexts.

In regions where health institutions are trusted and policies have been culturally embedded, change is beginning to take root. Smoking is increasingly stigmatised, and quitting is not only encouraged but actively supported through accessible smoking cessation services and a strong sense of social pressure to quit. Vaping remains a challenge, particularly among adolescents, but coordinated regulations are slowly catching up. School-based prevention efforts are widely accepted and modern in their approach. Parents in wealthier neighbourhoods tend to reinforce smoke-free values at home, and tobacco use is becoming less visible in everyday life.

The societal divide is clearly reflected in how prevention and education are approached. School-based programmes are unevenly implemented. In wealthier areas, prevention is reinforced at home and in the classroom. Parents model non-smoking behaviour, and children grow up in environments where smoking is not the norm. In more overlooked regions, smoking remains part of the household routine. Here, generational change often involves a shift from cigarettes to the latest nicotine products, rather than cessation altogether. Still, there are promising signs. Some children, inspired by digital campaigns or engaged teachers, begin to challenge smoking norms at home. In some cases, young people are taking on the role of educators in their families. However, the message is not always consistent. Some teachers continue to smoke and choose to downplay their own habits, undermining the credibility of school efforts.

Public attitudes towards smoke-free nicotine products remain fragmented. Cigarette regulation is widely accepted and enforced in most places, but many people still view newer products as unrelated to traditional tobacco. These perceptions are shaped less by science than by marketing. Even in regions where policy is clear and comprehensive, there is often a sense that regulations are politically motivated or out of touch with everyday life. This is especially true among youth and in communities where institutional trust has been low for generations. As a result, even the most carefully designed policies may fail to shift behaviour if they do not engage people on a human level.

Young people are increasingly aware of nicotine-related risks. But this awareness does not automatically translate into trust in institutions or adult guidance. In places where youth policies are well established, cultural gaps, mental health pressures, and the lack of safe coping tools mean that many still turn to nicotine to manage stress. They do not necessarily reject science, but they struggle to find support that meets their emotional needs or fits into their daily lives.

Social media plays a double role in this landscape. In regions with strong public health infrastructure, youth-led digital campaigns often align with official messaging, helping to build trust and shift attitudes. But even these efforts sometimes fail to reach broader peer groups. In regions where institutions are weaker or distrusted, social media often becomes the only accessible space for information. Here, it is as likely to amplify misinformation as it is to support quitting. While some young people use these platforms to raise awareness and share quitting journeys, others encounter a flood of glamorised content promoted by influencers or brands that exploit policy loopholes.

The link between environmental health and tobacco control is becoming more

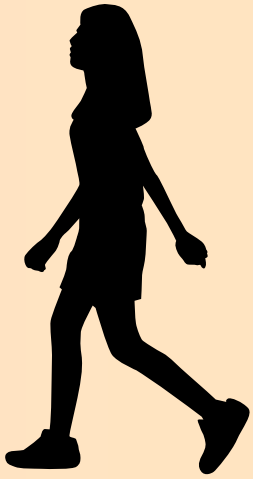
visible in some cities, particularly where clean air policies are part of wider urban development goals. These policies reinforce smoke-free norms and frame tobacco use as not just a health issue, but an environmental one. In these places, clean air and public well-being go hand in hand. However, in many other areas, tobacco remains a separate issue. The public may support climate initiatives, but tobacco is not yet seen as part of the same conversation. Where trust is low or messages are inconsistent, tobacco control struggles to find relevance in broader societal narratives.

Approach to chronic respiratory diseases

Chronic respiratory conditions reflect the fragmented realities of health systems across regions. In areas where clean air policies are actively enforced and school-based health programmes are consistent, asthma is often detected early and managed with personalised care plans. Children benefit from coordinated support at home and in school. However, in regions where services are underfunded, mistrusted, or inconsistently applied, asthma frequently goes undiagnosed for years. Even when treatment exists on paper, it is often inaccessible, rationed, or delivered without clear guidance. Some families rely on informal advice, online content, or peer networks to manage conditions that should be supported by structured care.

COPD prevention is included in many national health strategies, yet its real-world impact depends on whether those strategies are followed through at the local level. In communities where outreach is proactive and health communication is culturally resonant, people are more likely to seek help early and engage with treatment. But elsewhere, prevention is reduced to policy language with little reflection in everyday life. Diagnosis often comes only after repeated hospital visits or emergency events, and care is shaped by what people can afford, not what they need. Even where frameworks are in place, they require public trust, timely access, and tailored engagement to translate into meaningful outcomes.

This scenario, at its core, reflects a world where effective policies are possible, but their impact is shaped by local conditions, histories, and relationships. The challenge is no longer about convincing governments to act. It is about whether communities feel seen, supported, and involved in the solutions being offered. Tobacco control in 2040 is not just about science or regulation. It is about whether policy can meet people where they are and move forward with them, rather than ahead of them.



Mila

Mila was born in 2025, is now 15 years old and was diagnosed with severe asthma at the age of 10. Her hometown is part of a lower-income region of the Western Balkans with limited policy enforcement.

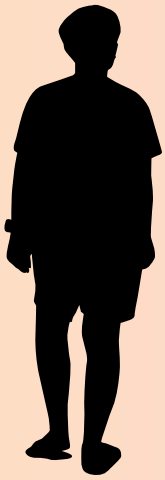
Mila lives in a household with her mother, grandmother, grandfather, and younger brother. Her grandfather smokes heavily, inside the house, and second-hand smoke is a regular part of her home environment, not limited in any way. Whenever Mila's mother tries to bring up this issue, the grandfather responds, *"My dad has smoked his whole life, and he lived until the age of 95, cigarettes are harmless…"*. Meanwhile, Mila had to say goodbye to her pet during allergen-proofing at home. She lives in an old house where the walls hold on to damp, and mould keeps coming back no matter how often it's cleaned, due to substandard materials used.

When Mila wants to have a walk outside, she feels like the air is choking due to smoke and bad climate. The air pollution is especially problematic during the winter months, due to widespread use of wood and coal for household heating, resulting in high PM 2.5 values. But even indoors, the air offers little relief, smoke seeps in, and mold adds to the sense of heaviness and discomfort.

However, smoking is banned around schools and students receive prevention programmes that rely heavily on fear-based messaging. Some of her friends have started vaping to cope with stress, and when she asks them not to do it around her, they brush it off, telling her it's not like real smoke. She knows it still makes her breathing worse, but saying so just makes her feel dramatic – so she stays quiet, and increasingly alone.

She has free access to basic treatment, like controller therapies and rescue inhalers, through the public system, but personalised care with tailored management plans is only available through private clinics, unaffordable for her family.

Mila's best friend from childhood, who also has asthma has moved to the Nordics last year, but they talk on videocall every night. When she hears about the advanced digital tools and personalised care he receives, she feels both a little envious and glad for him, giving her a bit of hope that she will have access to this in the future.



Minh

Minh was born in 2008 and is now 32 years old in 2040. He lives in a middle-income country in Southeast Asia where tobacco taxes have risen sharply. The cost of cigarettes and vaping products has increased significantly, but policy support for quitting remains inconsistent. Minh started vaping at 16, introduced to it by friends who saw it as less harmful and more socially acceptable than cigarettes. Although he later experimented with smoking and other nicotine products, vaping remained at the centre of his nicotine use. What began casually evolved into a costly daily habit.

Over the years, Minh made several attempts to quit. A wave of public attention to cessation encouraged him, and he managed to stop for a while. However, without structured, long-term support, he relapsed.

During a holiday abroad, where cigarettes were cheaper and more freely used, especially in social settings, he fell back into smoking. When he returned home, he shifted back to vaping as a coping mechanism. It still felt more accessible and less stigmatised than smoking, but the dependency remained.

His doctor, now more concerned about emerging research showing that long-term nicotine vaping can have a major impact on his lungs, it can also raise blood pressure and strain the cardiovascular system, advised Minh to quit altogether. But quitting for good has proven difficult. He finds himself caught between sincere personal effort and a health system that offers little follow-through. In a region where prices have gone up, but support is patchy, Minh continues to navigate the gap largely on his own.

Eileen

Eileen was born in 1975, is now 65 years old and lives in a high-income country in Oceania. She began smoking as a teenager, when cigarettes were cheap, widely available, and sold openly in kiosks and vending machines. The legal age to buy them was just 16 at the time, and no one really questioned it. For her, smoking was about fitting in, but also about managing stress during a time when other coping tools were rarely discussed.

Over the years, tobacco regulation became increasingly strict. Each new policy, from higher taxes to display bans and smoke-free areas, felt to her like an intrusion. It seemed like another example of the government trying to control personal choices. She never liked vaping. It did not give her the same feeling as smoking, but she used it indoors or when she found herself in regulated spaces, more out of necessity than preference.

At 50, after years of coughing, chest tightness, and repeated lung infections, Eileen was diagnosed with COPD. It was a turning point. For the first time, she decided to enrol in the cessation support programme offered by her health provider. It was not easy. It took two years of setbacks, effort, and frustration, but eventually, she managed to quit.

Her COPD is now well managed. She has access to triple therapy, influenza vaccination, pulmonary rehabilitation, but also advanced treatment, including biologic medication, and can keep up with daily activities more easily.

Looking back, she often thinks about how different things might have been if the same support had been available, or offered to her directly, much earlier. She does not blame anyone, but part of her carries the quiet belief that if she had received that support earlier, it might have helped her avoid developing COPD or at least helped her reducing the disease burden.

SCENARIO B

Endgame Generation

By 2040, a global cultural shift has taken hold: the use of combustible cigarettes is nearly eliminated, smoking is no longer normalised and viewed as historical harm. Global smoking rates have fallen below 5%, driven by radical generational policies, strong public trust, and political will. A new "endgame generation" has emerged, young people who grew up without tobacco in their environment or peer circles. Restrictions are widely accepted and seen as a collective social good.

These programs have evolved into holistic interventions that strengthen peer communities, address bullying, and incorporate mental health support such as stress management and adaptive coping strategies. Initiatives like later school start times, allowing students to get enough sleep, help build resilience and reduce the underlying drivers of substance use. Peer pressure to smoke or vape has been largely eradicated, and the social environment encourages health rather than risk-taking. Following growing concern about youth-targeted marketing, the EU passed landmark legislation in 2028, banning influencer marketing of harmful products and mandating transparency in all advertising content.

Smoking is increasingly viewed as an environmental issue. Public pressure for clean air policies is growing alongside concern about the environmental impact of electronic waste from vapes. In 2029, a widely reported controversy, referred to as "VapeGate" by international media, raised questions about the environmental practices of some companies, including the disposal of battery waste and the adequacy of current regulations. Similarly to movements advocating plant-based diets and climate action, a new wave of youth activism has begun to frame nicotine industries as both a personal and planetary issue. Alongside calls for cleaner air, there is also a growing demand for greater corporate transparency and responsibility, particularly regarding the environmental impacts of production and the working conditions of tobacco farmers.

Generational bans, first introduced in Oceania and the Nordic countries during the early 2030s, have now become common in most high-income countries. Those born after 2018, now 22 years old, have never purchased a cigarette. While informal markets still exist, with older buyers sometimes supplying youth, addiction rates remain exceptionally low. Strict regulations require products to be ultra-low in nicotine, making addiction unlikely even when

Key characteristics and assumptions

- High public trust and political will enable sustained investment in prevention, regulation, and cessation support.
- Strong compliance with international policy standards
- Holistic, youth-centred approaches integrate mental health, education, and social environment into tobacco control efforts.
- Tobacco industry regulation is strict and transparent, with lobbying restrictions, research safeguards, and environmental accountability in place.

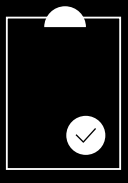
Signals of change to monitor

- Opinion polls showing growing public support for generational bans.
- Nicotine control policies are being updated with increasing frequency.
- Expanding implementation of international policy standards.
- Increasing access to and success rates of cessation services.
- Declining asthma and COPD incidence rates.
- School surveys reporting improved mental well-being indicators.

Tipping points

- Generational bans gain traction globally.
- Major scandals expose tobacco industry interference.
- Environmental framing of vaping energises youth movements.
- Breakthrough cessation treatment boosts quit rates.

Trade-offs



- Falling tobacco tax revenues challenge public health budgets and force reallocation of funds.
- Stricter access and bans raise equity concerns.
- Public health gains in high-control settings may come at the cost of trust, particularly among already marginalised groups.

products are accessed. By the mid-2030s, a series of major scandals revealed the extent of tobacco industry interference in shaping health policy, including covert efforts to reverse generational bans and promote e-cigarettes as harmless alternatives. These scandals led to the adoption of much stricter policies, including mandatory transparency registers for lobbying, exclusion of tobacco industry-funded research from policymaking, and the international reinforcement of WHO FCTC Article 5.3, ensuring protection of public health from commercial interests.

As smoking rates have continued to decline, particularly in high-income countries, revenues from tobacco taxes have fallen significantly. Nevertheless, because prevention programs increasingly address multiple risk behaviours and emphasise mental health and wellbeing, younger generations are showing less reliance on nicotine use as a coping strategy. Some critics, however, argue that public funds could be better allocated elsewhere, but it is increasingly recognised that maintaining the tobacco endgame momentum requires sustained, long-term investment. The long-term benefits, lower healthcare costs, and healthier ageing populations are beginning to outweigh the immediate financial concerns.

However, controversies persist. In some regions, cultural resistance to tobacco-control measures, particularly where tobacco holds traditional or symbolic value, continues to slow the adoption of progressive policies. Questions around personal freedom and government outreach occasionally surface in public discourse. These tensions highlight the need for ongoing public engagement and education to maintain political and social momentum for tobacco control.

As regulations in high-income countries tightened, the tobacco industry shifted its focus to markets where state influence over the economy was weaker. Middle-income countries have shown uneven progress, with cultural and economic tensions influencing the pace of change. Some have achieved substantial declines in smoking, while others still struggle with strong tobacco industry interference. Some of these countries have piloted partial bans, raised minimum age thresholds, or tightened access through licensing and taxation. Regulations banning smoking inside cars have also become more common.

Low-income countries continue to require substantial international support to implement and enforce tobacco control policies effectively. Moreover, the spread of generational bans and low product availability made it an international priority to prevent cross-border trade. To support global progress, cessation programs were made openly accessible, often through non-copyrighted frameworks shared across borders.

In some parts of the world, particularly where more controlling approaches are politically accepted, individuals may be required to provide a biological sample to verify recent tobacco use. These results can feed into social scoring systems or influence access to public benefits. Meanwhile, in other countries, similar verification may affect the price or type of insurance coverage available. However, these approaches can deepen stigma around tobacco use, exposing lower-income or chronically ill individuals to shame and judgment.

Nicotine use is broadly recognised as addiction, with cessation programs following a personalised behavioural change approach, but also medical support. Cessation programs are now routinely integrated into primary care, with stress management, lifestyle change, and mental health support embedded into treatment pathways. Shortages of healthcare personnel have been mitigated by the increasing use of group therapies, peer-led programs, and digital cessation tools. Former smokers and patients with respiratory diseases are actively involved in co-developing these services, ensuring that programs are grounded in real-world needs.

The 2037 release of Quitavax, a breakthrough treatment for nicotine addiction, has significantly improved quit outcomes and brought new hope to cessation efforts. Patient groups and public health professionals are advocating for wider access, pushing for regulated pricing and ensuring that coverage is not limited by geography or income. While rollout in low-income countries remains slower, strong international cooperation and persistent advocacy are driving initiatives to expand access globally.

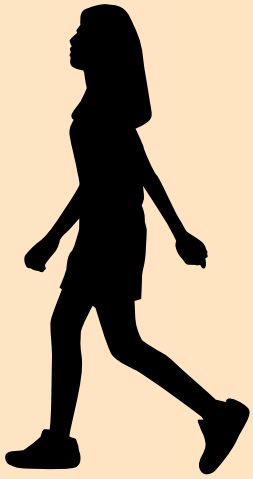
Product innovation in tobacco products has slowed under declining demand and tight regulations. Vaping and other alternative nicotine products are socially discouraged and regulated with growing concerns over environmental impact, including battery waste. Flavours and appealing features are banned or restricted, retail licenses have been reduced, and manufacturers must now prove that new products are not harmful. A major longitudinal study published in 2040 has confirmed the harmful effects of e-cigarettes, adding urgency to regulatory measures already underway.

Approach to chronic respiratory diseases

Air quality improvements and reduced smoking prevalence have already contributed to a decline in asthma incidence. COPD prevalence has started to decrease slightly, though the long-term impact of generational bans is still unfolding and is projected to take effect within 20-30 years. Increasingly, smoking cessation is framed within a broader mental health context, improving both respiratory and overall health outcomes for former smokers.

Better access to affordable, innovative, and effective treatments is also playing a crucial role. For patients at higher risk, regular follow-up and proactive care planning are becoming more widely recognised as essential to managing chronic respiratory diseases effectively. These steps, combined with earlier diagnosis and better patient education, are helping to reduce emergency visits and prevent complications.

Nevertheless, the battle against tobacco is never won once and for all. Sustaining this progress requires continuous vigilance and commitment. Regulations and health campaigns must be enforced, updated, and monitored continuously. Monitoring black market trends, understanding shifts in youth perceptions, and preventing corporate influence remain essential tasks.



Mila

Mila was born in 2025, is now 15 years old, and lives in a lower-income region of the Western Balkans. She was diagnosed with severe persistent asthma at the age of seven, after repeated winter episodes of wheezing and breathlessness during play at her kindergarten. Her family home still suffers from damp and poor ventilation, and winter air pollution remains a concern. However, conditions have improved in recent years. Tobacco control measures and clean air regulations are being introduced gradually, supported by international cooperation and increasing public awareness. Her grandfather, who once smoked indoors without hesitation, now makes an effort to step outside more often. Her mother feels more empowered to speak up, supported by local campaigns promoting smoke-free homes.

Mila's asthma is now well-managed. She follows a structured asthma action plan and uses a free digital health app that helps her track symptoms, stay on schedule with her medication, and receive alerts about pollution or high pollen levels.

At school, her physical education teacher monitors her activity, and her classmates are supportive. They are aware of her condition, and none of them smoke or vape. Among her peers, smoking is seen as harmful and outdated.

While advanced personalised care is still only available through private clinics, which are out of reach for her family, the public system is steadily improving. Mila feels more in control of her health and more hopeful.

She keeps in touch with her friend who moved to the Nordics, where asthma care is far more advanced. The difference is still clear but no longer feels impossible to bridge. Little by little, she sees her environment beginning to change.

Minh

Minh was born in 2008 and is now 32 years old in 2040. He grew up during the early rise of vaping in Southeast Asia. By the time he turned 16, e-cigarettes were already a major part of youth culture. They were easily available, promoted as trendy on social media, and often used indoors without drawing attention. Among his friends, vaping was normal, while cigarettes were seen as outdated. When he tried smoking, he found it unappealing. By then, tobacco regulations had limited nicotine content in cigarettes, making them less satisfying than the rush he got from vaping. He continued to vape well into adulthood, using it mostly to manage stress.

Although he was not part of the post-2018 "endgame generation" affected by the generational sales ban, Minh saw how things had changed. Retailers enforced stricter age checks, public use was discouraged, and appealing flavours were taken off the market. Over time, vaping became less convenient and less socially acceptable.

In his early thirties, Minh began thinking seriously about starting a family. Motivated by this new chapter in life, he decided to quit nicotine for good. He signed up for a structured behavioural programme and began using the national QuitCoach+ app. The app helped him track cravings, offered chat-based cognitive behavioural support, and gave him practical strategies for avoiding relapse. Because he had tried to quit several times before, Minh was flagged for Quitavax, a new cessation treatment offered to those with persistent nicotine dependence. With this combined approach, he finally managed to stop.

Minh now lives free from nicotine addiction and has reshaped his routines around health and stability. He feels optimistic about the future and grateful to be part of a society where quitting is no longer a solitary struggle, but something genuinely supported and achievable.

Eileen

Eileen was born in 1975, is now 65 years old and lives in a high-income country in Oceania. Like many in her generation, she began smoking as a teenager. At the time, cigarettes were widely available, culturally normalised, and often used to manage stress.

Over the decades, smoking became increasingly inconvenient as regulations tightened, and social attitudes changed. She reduced her use gradually, especially after seeing older relatives suffer from smoking-related respiratory conditions, but quitting altogether never felt within reach.

Throughout her fifties, her GP regularly monitored her lung health. Eileen was considered at risk, but between supporting her daughter, who was raising a child alone, and managing her work and responsibilities, she never found the time to attend a cessation programme.

It was not until she was diagnosed with COPD at 58, shortly after her grandson was born, that her priorities shifted. The diagnosis and the arrival of a grandchild born into the smoke-free generation gave her the motivation she needed to change. Within a year, she had quit completely.

She now manages her condition with relevant therapies, including biologics, and a personalised treatment plan that includes digital symptom tracking and regular physical activity.

Eileen's health has improved, but her journey did not end there. She now volunteers with the national COPD Alliance, helping to shape policy and offer support to others in similar situations. Eileen advocates for using tobacco- and nicotine tax revenues to provide free pulmonary rehabilitation passes for low-income seniors. She also mentors older patients who find digital tools overwhelming, teaching them how to make health apps work for their daily lives. Through her advocacy and lived experience, Eileen represents the strength of a generation that came late to tobacco control but is helping ensure no one is left behind.

SCENARIO C

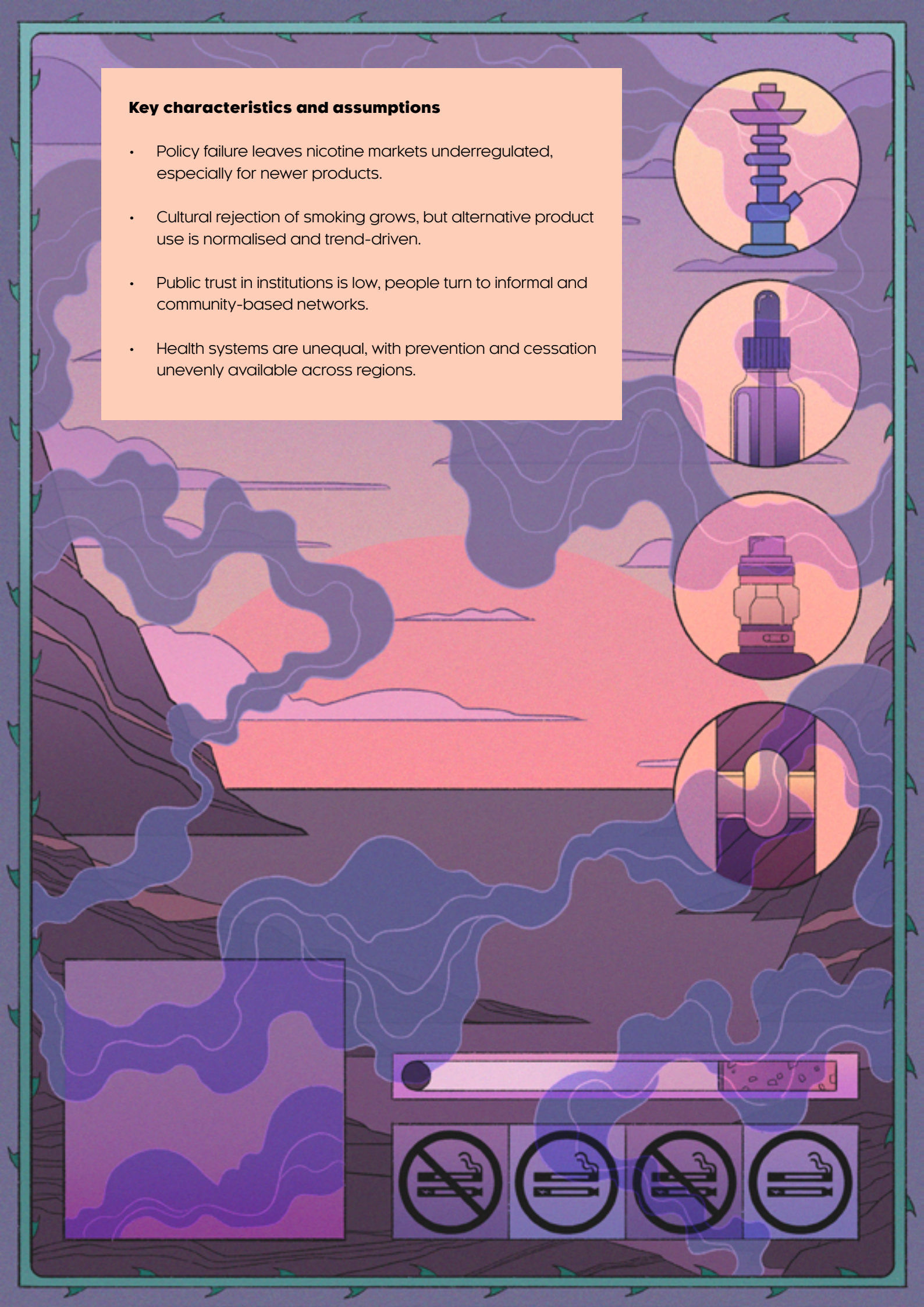
Rebellion in the Ruins

In 2040, the world feels like a paradox. While cigarette smoking has declined, particularly among urban and younger populations, this success masks a broader failure in tobacco and nicotine regulation. A series of alternative nicotine products have entered the mainstream, largely unchecked by coherent regulation. Declining smoking rates are driven by shifting cultural norms and growing peer pressure against "old-fashioned" cigarette use. The result is an era marked not by policy victories but by a "positive rebellion": a public-led push toward health consciousness and local resilience. Fuelled by frustration with institutional failure, people are taking matters into their own hands. Grassroots activism is reshaping public attitudes by mobilising local actors, educators, health workers, and NGOs.

Policy failure is the defining feature of the 2040 nicotine control landscape. The tobacco industry has been leveraging legal loopholes and slow regulatory bodies to expand aggressively into new product lines. As tax revenue from tobacco declined due to falling smoking rates, many governments already stretched by short-term fiscal concerns have further deprioritised long-term public health goals. Instead of introducing strong public health measures and regulating emerging products, they focused narrowly on taxation, increasing the burden on the most vulnerable while creating space for illicit markets to expand.

Health economists have published several articles warning about the cost of inaction, sparking some policy debate. In response, a regional alliance proposed a smoke-free generation policy in the early 2030s that would have banned tobacco sales to anyone born after 2018. A few countries adopted the idea, but most repealed it before it ever took effect.

Research on the long-term effects of vapes and other alternative devices is ongoing but underfunded, as grants have not kept pace with the nicotine industry's innovation. New products are rapidly developed and released, sometimes combining nicotine with "wellness additives" such as sedatives. Aggressive marketing campaigns reframed these products as tools for stress relief, focus, or self-care. Even as the nicotine industry tries to rebrand around a "stress-free future," public scepticism is growing. Still, the lack of credible counter-messaging makes it hard to shift the narrative.



Key characteristics and assumptions

- Policy failure leaves nicotine markets underregulated, especially for newer products.
- Cultural rejection of smoking grows, but alternative product use is normalised and trend-driven.
- Public trust in institutions is low, people turn to informal and community-based networks.
- Health systems are unequal, with prevention and cessation unevenly available across regions.

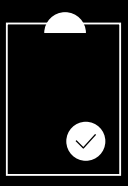
Signals of change to monitor

- Uptake of new nicotine products and hybrid devices in the absence of regulation.
- Trends in social media culture and youth-led counter-narratives.
- Growth and reach of grassroots public health initiatives like Respira.
- Shifts in public trust in health systems and government messaging.

Tipping points

- Viral youth content like “Chill Hits Only” fuels a surge in product uptake, especially among teens.
- Counter-reels such as “Fresh Mode” begin to shift attitudes and reduce product appeal.

Trade-offs



- The 2031 nicotine poisoning scandal sparks outrage but doesn’t result in reform.
- Growing inequality in access to cessation support and protection from harm.

Among younger and urban populations, cigarette smoking is widely seen as outdated and harmful. It's associated with an older generation, the smell that sticks to clothes, and a kind of carelessness that clashes with today's focus on wellness. However, many still engage with alternative nicotine products, influenced by trend cycles and peer dynamics. This leaves their relationship to nicotine ambivalent and evolving.

Social media has become both a battleground and a mirror of public discourse. In 2032, the "Chill hits only" video went viral, featuring influencer Daja dancing in a dreamy, neon-lit bedroom, exhaling clouds of aerosol in sync with the beat. This has led to a massive youth uptake in the following months, made worse by the ease of purchasing these products directly on social media.

However, after some time, when Daja tried reviving the popularity of the video, it was met with hundreds of "touch grass" comments. After this "grasscore" videos, such as "Fresh Mode" started popping up, first as a joke, showing groups of people having fun in nature settings with dreamy music. While these counter contents weren't as viral, they sparked a broader conversation about what wellbeing and being cool mean and gave a boost to communities advocating for stronger tobacco and nicotine control, working to push back against the trendiness of these products.

In 2029, a sharp increase in teenage hospitalisations due to nicotine poisoning triggered widespread public concern. The products involved were legally available but lacked clear warning labels and had no limits on nicotine concentration, some reaching up to 90 mg/ml. Headlines such as "Poisoning Our Future" captured the growing alarm. The incident underscored the consequences of inadequate regulation, particularly in protecting young people. While the public called for stronger safeguards and clearer oversight, political responses remained cautious. Some politicians, sensing the public frustration, began engaging with the issue on social media, expressing support for reform, though without offering concrete policy action.

Formal educational programs are outdated and unable to address the complexities of the modern nicotine landscape. In some regions, parents have pushed for after-school sport clubs through local fundraising to help manage stress without turning to nicotine. Teachers also organise peer-led discussions, and community leaders mobilise campaigns for nicotine addiction prevention. Digital connectivity has empowered community networks trying to raise a health-conscious generation. These initiatives, however, lack formal oversight or standardised curricula and vary greatly across regions. Still, they resonate with young people in ways that government programs no longer can.

In many regions, effective cessation support remains a privilege of the upper-middle class, while lower-income individuals rely on inconsistent or informal networks. This has deepened inequality in access to treatment. Public trust in health institutions is at an all-time low. With traditional public smoking cessation programs being defunded and outdated, especially in low-income countries, people increasingly turn to personal networks, influencers and community leaders for guidance.

To fill the void left by public programs, localised efforts have emerged. With limited funding, unclear evidence, and a lack of guidance on how to respond to different patterns of use, these initiatives take varied priorities. While unified in opposing traditional smoking, they take conflicting approaches, particularly when addressing newer products, including hybrid devices.

By 2037, a new public health network, Respira, emerged, offering free virtual cessation consultations and open-source tools like the Free2Breathe cessation app and interactive education on nicotine addiction prevention. Though small at first, it gained international support and NGO participation, expanding globally by 2039. Despite concerns about corporate influence, the initiative is rebuilding trust in public health systems and has become a vital platform for marginalised communities. Nevertheless, it remains uncertain whether this movement can scale sustainably.

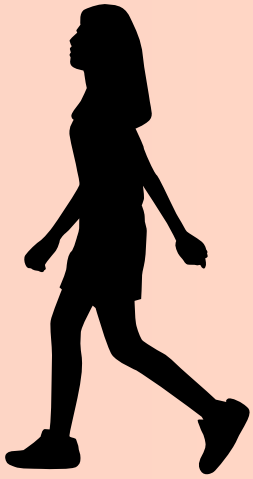
Approach to chronic respiratory diseases

Respiratory health outcomes are mixed. COPD prevalence has marginally declined, mainly due to falling cigarette use and community-driven awareness about occupational exposure. In low-income regions, household biomass burning has significantly decreased, thanks to local awareness campaigns promoting less harmful alternatives.

However, asthma continues to burden populations, particularly in regions with persistent air pollution. Clean air legislation has stagnated globally, and institutional responses to environmental health threats remain slow and reactive. In the absence of effective occupational and environmental measures, the burden of asthma continues to fall disproportionately on vulnerable communities.

While respiratory patients can rely on community-supported care networks, access to treatment remains uneven. Many feel left behind in a system that has failed to provide consistent care or protection.

For now, the world of 2040 is defined by contrasts: failure at the top, energy at the bottom. Nicotine use has not disappeared, but its context has changed. A world in which rebellion isn't just against the product, but against the systems that allowed it to persist.



Mila

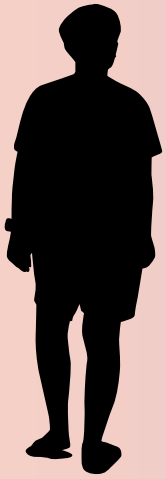
Mila was born in 2025 and is now 15 years old and is living in a lower-income region of the Western Balkans. Like her mother, she has asthma, and the condition has become a shared part of their lives. But in a region where regulation is weak and healthcare services are unreliable, consistent treatment is not guaranteed. When her controller inhalers run out, there are no easy replacements. Instead, she relies on a patchwork of support led by her mother, local volunteers, and other families facing the same challenges.

Public spaces near her home are full of dust, smoke from roadside cooking, and exhaust fumes. During colder months, indoor air worsens as many families burn wood or biomass for heat and cooking. Mila has started wearing a mask in certain neighbourhoods, finding it easier to breathe when others around her do not even notice the pollution.

Together with her mother and classmates, she has helped petition the local council to establish low-emission zones. So far, there has been little response. But one small victory has come through school: a parent-led initiative successfully improved the ventilation in her classrooms, giving her at least one clean-air space in her daily routine.

Some of her friends have experimented with vapes and nicotine pouches. They are easy to buy from corner shops, packaged in bright fruit-themed colours and sold for pocket-money prices. There are rarely age checks, and many believe they are harmless because they do not smell or produce smoke. Mila, however, has stayed away. After her aunt, a trusted adult in her community, explained the risks clearly and respectfully, she decided they were not worth it.

She is frustrated by the lack of action from those in power, but hopeful that change can still happen from the ground up. Her experience of asthma has made her more aware of how health, environment, and policy intersect. Even though formal systems have let her down, she is growing up surrounded by people who are pushing for something better.



Minh

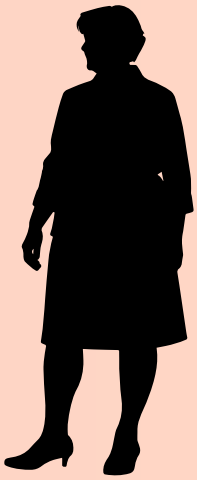
Minh was born in 2008 and is now 32 years old in 2040. He lives in a middle-income Southeast Asian country where regulation has failed to keep up with the explosion of new nicotine products. He began smoking and vaping at 16. By the time he turned 18, he was addicted. Cigarettes were affordable and easy to purchase, and e-cigarettes were widely available in corner shops and online, with no meaningful age checks or price controls in place.

Although his city features vivid street murals promoting quitting, they often lead nowhere. One mural near his neighbourhood reads "Quit Today", but the QR code links to an expired NGO website. Public health campaigns have a visual presence but lack ongoing support due to underfunded initiatives. At his local pharmacy, even basic nicotine patches are frequently out of stock.

In recent years, Minh has stopped smoking cigarettes and now uses only e-cigarettes. He prefers disposable vapes, especially a kiwi-ice flavour that is easy to conceal and smells pleasant. The packaging claims 5% nicotine, but a popular online teardown video shows some versions exceeding 7%. His friends are divided. Some praise him for giving up cigarettes, while others tag him in vape-related videos and reels that romanticise the habit, making it harder to quit.

He has tried to stop several times, but the cessation programmes he finds are geared towards older smokers. They do not reflect his experience with high-nicotine disposables or the constant presence of vape culture on social media. The programmes feel generic and disconnected from his reality.

Minh continues to use vaping to manage stress, believing it to be less harmful. However, he occasionally wakes up with throat tightness and a dry cough. Each time it happens, he questions whether the vanilla cloud he inhales at night is as harmless as he once thought. He wants to quit, but the support he needs has yet to catch up with the world he lives in.



Eileen

Eileen was born in 1975, is now 65 years old and lives in a high-income country in Oceania. She began smoking as a teenager, during a time when cigarettes were cheap, advertised freely, and sold in vending machines. While the world around her has changed, the last 15 years have brought only modest improvements in tobacco regulation. Cigarette packs are now plain, and prices have risen, but access is still easy for those who want them.

At 55, Eileen was diagnosed with COPD after years of persistent coughing and repeated chest infections. She joined a local cessation programme shortly after, but it did little to help. The materials felt outdated and impersonal, and the weekly sessions required a long bus ride across town. Still, she stuck with it as best she could. What ultimately helped her quit were not the leaflets or group sessions, but the care and persistence of two close friends. One gave her leftover nicotine patches. The other called regularly and invited her on walks whenever cravings hit. With their support, she managed to stop smoking two years after her diagnosis.

Since then, Eileen has turned to vaping. She finds it more acceptable, particularly when her grandson visits, and her family encouraged the switch as a healthier alternative. She still vapes daily, with a nicotine intake roughly equivalent to half a pack of cigarettes, but she never uses it indoors when her grandson is around. She wants him to grow up in a generation that sees nicotine as unnecessary, even if the law does not protect him from exposure.

Her COPD has not improved significantly. Outdoor air quality in her neighbourhood remains poor, and she suspects it is affecting her lungs. A friend has lent her an air purifier, which she now uses at home, though it makes her feel more confined and alone. Her medical care is limited. Biologic treatments are not reimbursed, and referrals for pulmonary rehabilitation involve a two-year wait. In the absence of reliable institutional support, Eileen continues to lean on her social circle, where practical advice and shared stories are often more valuable than anything her health provider can offer.

SCENARIO D

The Ashtray Planet

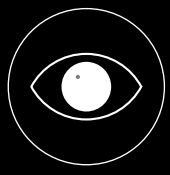
By 2040, both tobacco and broader nicotine use have remained widespread and deeply entrenched across much of the world. Smoking continues to be seen as a norm, especially among older populations, carrying cultural weight and persisting as a coping mechanism in times of personal stress, political uncertainty, and collective decline. Despite decades of evidence on the harms of tobacco, meaningful progress has stalled. Misinformation and weak guidance have blurred the line between evidence and opinion, making the risks feel debatable to many. Public concern has shifted to more immediate crises such as economic instability, authoritarian politics, worsening environmental disasters, and mounting inequality. With these pressing issues dominating national agendas, tobacco control has been deprioritised while societal and health-related decline leaves little political or social energy for sustained tobacco control efforts.

In this environment of fatigue and fragmentation, governments in many countries have retreated from public health leadership by catering to corporate interests instead of to the well-being of citizens, eroding public trust. Some states have actively rolled back past tobacco control measures, repealing smoke-free laws and deregulating advertising in pursuit of economic gains. Others have been abandoning enforcement, allowing laws to exist on paper but not in practice. The 2027 EU amendment on directives to delegate tobacco policy back to national governments symbolised a shift toward fragmentation, creating space for tobacco industry lobbying and legal loopholes while critics warned it weakened the EU's unified stance against tobacco-related harm. Once-promising international cooperation around tobacco control has eroded, and global agreements like the WHO Framework Convention on Tobacco Control have lost enforceability. International funding for NGOs has dried up, leaving civil society actors disempowered. National policies are fragmented, with some countries advocating harm reduction often influenced by tobacco industry tactics, while others pursue prohibition, neither effectively addressing the rising youth uptake.

Key characteristics and assumptions

- Governments prioritise economic survival over public health, enabling the tobacco industry's influence.
- Public trust in science and health institutions has eroded, fuelling misinformation.
- Tobacco is culturally normalised, and youth exposure begins early through social media and celebrity influence.
- Health systems are fragmented and under-resourced, with minimal cessation infrastructure remaining.

Signals to monitor

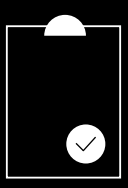


- Repeal or weakening of tobacco regulations and smoke-free laws.
- Rise in dual and poly-use of nicotine products, especially among youth.
- Expanding industry marketing outpacing public health campaigns Expanding tobacco industry marketing outpacing public health campaigns.
- Rising counterfeit product availability.
- Increasing incidence rates of chronic respiratory conditions.

Tipping points

- Delegation of tobacco control to national governments weakens global cooperation.
- Disappearance of international funding for NGOs.
- Industry rebranding as wellness, altering public perception of harm.

Trade-offs



- Tobacco industry framed as an economic driver influencing political priorities.
- Social resignation and normalisation of harm reduce demand for reform.

With no one stepping in, the tobacco and nicotine industries have filled the gap, lobbying aggressively, rebranding, and gaining more economic influence. In some countries, these companies have positioned themselves as major employers during economic crises, gaining public sympathy and state support. Operating within so-called "free zones" with looser regulations, they are allowed to flourish under the justification that they bring jobs. Over time, they begin to function less like businesses and more like lobbies, shaping local policy to protect their interests.

At the same time, corporations with tobacco roots have started acquiring health tech and wellness startups, strategically repositioning themselves within the health sector while still prioritising profit over public interest. Research funded by the tobacco industry is routinely used by governments to justify diluted regulations, eroding scientific credibility and public trust. In response, many health professionals have become overwhelmed and disengaged from public policy debates.

Second-hand smoke and aerosol are common in public spaces, particularly where smoking bans are unenforced or repealed. It is common to see people smoking on public transport platforms, outside hospitals, or even in parks where children play. Smoking prevention education, where it exists, is outdated or absent. Parents often do not discourage smoking, and children grow up in environments where tobacco is normalised. As a result, youth addiction begins earlier and lasts longer. Flavoured and novel nicotine products, marketed through influencers and masked as wellness aids, dominate social media, fuelling dual and poly-use trends. Advertisement regulation is fragmented, and enforcement is weak, allowing corporate marketing to saturate social media platforms. Celebrities openly use and glamorise nicotine, reviving an old cultural aesthetic of rebellion, now repackaged as self-care. Meanwhile, public health messaging struggles to break through tobacco industry-driven misinformation.

A sense of resignation permeates society. Tobacco-related harm is viewed as inevitable, not preventable. You Only Live Once ("YOLO") and nihilistic rationales become common excuses for continued use. Dual and poly-use of nicotine products is not a stepping stone but a long-term norm. There is little societal pressure to change, and almost no systemic support to do so.

Where still available, cessation infrastructure is minimal. Materials are outdated, and staff is under-sourced. In many regions, it has disappeared altogether, as funding once allocated to prevention has been redirected toward managing broader health system pressures, including the treatment of otherwise preventable harms.

Approach to chronic respiratory diseases

Health systems do little more than renew basic prescriptions under the weight of increasing chronic respiratory conditions, particularly among middle-aged and elderly smokers. People are released from hospitals earlier, only to be readmitted again weeks later. Many pulmonologists, high in demand due to rising respiratory diseases, shift into private care, while the public system is allowed to wither under the justification of cost-efficiency. Privatisation and

underfunding of healthcare further increase inequality, leaving the most vulnerable exposed to long-term harm.

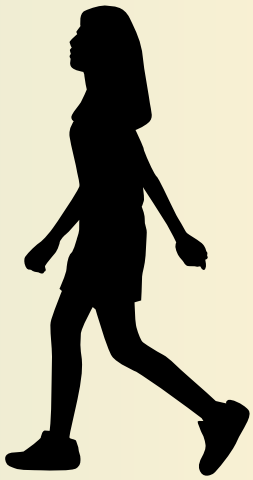
COPD and asthma rates climb steadily, particularly in urban, low-income, and marginalised communities but many cases go undiagnosed. In under-resourced regions, children with undiagnosed asthma die from attacks that could have been prevented. Outdoor air quality continues to deteriorate due to unregulated industrial pollution. A headline from 2037 captures the mood: *"Can you smoke on the moon? Record heat and smoking rates leave the world struggling to breathe."* In some countries, tobacco farms have expanded, displacing food crops, consuming water resources, and degrading soil. Vape-related waste adds to environmental damage, contributing to electronic pollution and forming new marine garbage patches. Some people have begun wearing masks again, not for viruses, but to cope with outdoor smoke and smog.

Cheap, counterfeit products flood communities, especially in low-income regions where formal controls have first collapsed. With little regulation or oversight, tampered or contaminated products are common. For the most vulnerable, these products are all they can afford. Meanwhile, well-off individuals can turn to private healthcare and cessation clinics. The gap between those who can afford to quit and those who are left exposed continues to grow.

The burden is not only physical but also emotional. The rise in chronic illness has coincided with an increase in depression and suicide among people living with long-term conditions like COPD. Isolation grows as people retreat further into digital spaces, where nicotine use is encouraged, and misinformation about health risks spreads unchecked. Public health messaging struggles to reach anyone.

And yet, the presence of tobacco doesn't mean everyone turns to it. People cope in different ways; some turn to other risky or unhealthy habits, while others simply try to get through the day. In every region, there are pockets of resistance, individuals and communities frustrated by the return of smoke-filled public spaces, by corporate interference, and by policies that exist in name only. Some remember what clean air felt like. Others want something different for their children but lack the resources to make it real. The will for change exists, but without coordination, investment, or accountability, intention rarely becomes action.

This is a world where tobacco has not been beaten; it has adapted, flourished, and reclaimed space once lost. The Ashtray Planet is not the result of one failure, but of many small surrenders: to disinterest, to distraction, to despair. As the tobacco industry outpaces weak regulatory systems with new products and aggressive lobbying, public health is left playing catch-up, fragmented, under-resourced, and overwhelmed.



Mila

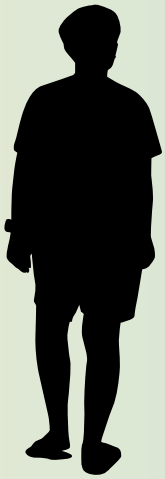
Mila was born in 2025 and is now 15 years old and is living in a lower-income region of the Western Balkans, in a city suffocated by industrial pollution and systemic failure. She was diagnosed with asthma at the age of 10, but only after years of coughing, chest tightness, and missed school days. Healthcare providers had dismissed her symptoms repeatedly. By the time she reached a pulmonary clinic, her lung growth was already behind where it should be, and doctors warned of lasting damage without early intervention.

Yet meaningful care never followed. Mila receives only basic, non-personalised medication and no structured support. Her mother rations her inhaler, stretching each prescription as far as possible after the public subsidy programme was quietly discontinued. At home, they search TikTok for asthma advice, using local hashtags to find breathing tips and DIY hacks. Some videos offer comfort, others do more harm than good.

Mila lives near factories and busy roads where second-hand smoke and smog blur together. She avoids physical activity, not out of choice but out of fear. PE class often ends in breathlessness or bullying. No one at school asks how she is doing, and there are no accommodations in place. Anxiety and inactivity have become part of her routine.

Recently, under pressure from classmates, Mila tried an e-cigarette. She was told it was harmless and would help her relax. Instead, it triggered a severe reaction and sent her to hospital. Since then, she has felt even more out of place. There is no follow-up care, no one to help her understand what happened or what to do next.

Mila's world is filled with smoke, indifference, and silence. There are moments when she wants to believe it could be different, but there is no infrastructure to support that belief. For now, she simply tries to get through the day.



Minh

Minh, born in 2008 in a middle-income country in Southeast Asia, is now 32 years old and has been smoking for more than half his life. He started at 15, surrounded by friends who saw it as normal, even expected. Since then, he has made several attempts to quit, but without real support, those efforts never lasted. His GP asks occasionally whether he still smokes, but the conversation ends with a generic leaflet and a prescription he cannot afford to refill.

The national quit-line no longer functions. It was defunded six years ago, and the number now plays hold music before redirecting callers to a broken website. At his workplace, there was once a lunchtime quit class, but the coach was laid off during budget cuts. No one talks about bringing it back.

Smoking is part of Minh's daily life. His coworkers light up together during breaks, sharing cigarettes and stories. It is how they unwind, how they bond, how they get through the day. Minh is also caring for his mother full-time. She is chronically ill, and there is no formal care or community support to help him. Between work and home, he is exhausted. Lately, he wheezes after climbing stairs, but the idea of paying out of pocket for a private respiratory appointment is out of the question.

Without motivation, time, or resources, he continues to smoke. It is a coping mechanism, a connection point, and a constant in a world where almost everything else feels fragile. In his environment, smoking is not a choice. It is the background to life.

Eileen

Eileen was born in 1975, is now 65 years old and lives in a high-income country in Oceania. She began smoking as a teenager, when smoking was fully normalised and the habit stuck. Over the years, she has developed a chronic cough and increasing shortness of breath. Booking a GP appointment has become nearly impossible. Phone lines open at seven in the morning, but all the slots are gone within minutes. She often gives up and orders her inhalers online instead.

When she does manage to see a doctor, the conversation is brief. She is told to quit smoking, handed a printout with vague advice, and sent on her way. There is no structured programme, no follow-up, and no interest in whether she succeeds or not. After a winter hospital stay following a respiratory infection, she was finally diagnosed with COPD. Since then, she has received only basic medications, renewed automatically. There are no regular check-ups, no adjustments to her treatment, and no one monitoring her progress.

She has heard of newer therapies, including biologics, but they are no longer covered. In 2036, the national insurance fund stopped reimbursing for conditions labelled as "lifestyle diseases". A month of advanced treatment would cost more than half her pension. Surgery has been suggested, but her COPD is poorly controlled, and her current care does not allow for the preparation or recovery such a procedure would require.

Eileen feels blamed by the healthcare system. Consultations are cold and transactional. She is rarely asked how she is coping, and never offered options she could realistically pursue. She worries about her grandson, who visits on weekends. She refuses to smoke around him, but she cannot protect him from the outdoor air, thick with car exhaust and smoke from nearby homes. The smell clings to everything.

Eileen still hopes for something better, but the system no longer pretends to offer it. Her condition has become something she manages alone, piece by piece, with what she can afford. And in the quiet moments, she wonders what kind of future her grandson will be breathing in.

Conclusion

STRATEGIC ACTIONS TO TAKE US TO THE PREFERRED SCENARIO B

The four scenarios present divergent but equally plausible trajectories for the future of CRDs and nicotine consumption by 2040. Together, they illustrate how the interplay between policy decisions, public engagement, tobacco industry tactics, and health system responsiveness could shape outcomes for respiratory health across the globe.

Exploring these narratives allows us to shift perspective by "looking back from the future" and ask, "How did we get here?" or "How can we avoid getting here?". By exploring how each scenario unfolds, we gain insights into the risks of inaction, the value of early prevention, and the critical importance of sustained, coordinated efforts.

The "Endgame Generation" scenario was selected by workshop participants as the most preferable future. This consensus emerged through a facilitated foresight process in which participants reflected on the scenarios through the lens of their own expertise, drawing on perspectives from clinical practice, policymaking, public health, behavioural science and advocacy.

The scenario offers a vision of a world where new generations grow up free from tobacco influence and where quitting is a supported, attainable goal and fully embedded in everyday healthcare. But translating this vision into reality requires targeted, sustained action across different stakeholder groups. Based on the insights and priorities identified by experts during the workshops, the following recommendations outline strategic actions for key stakeholder groups. Each set of actions is pushing toward bold systemic shifts to achieve the preferred scenario.

Policymakers

Policymakers play a central role in shaping systems that protect public health. Early and coherent actions can curb tobacco industry influence, build lasting infrastructure for prevention and cessation and eventually shift norms.

1. Reduce Appeal and Availability of Harmful Products

Prohibit or restrict flavours, reduce the attractiveness of packaging, and visibility that attracts (young) users. In countries where flavoured products are not yet on the market, consider banning them pre-emptively. Limit nicotine content in all products and regulate sales through controlled outlets and restricted retail licensing. Establish harmonised pricing policies, including minimum prices and annual tax increases on nicotine products.

Implement plain packaging and prominent labelling requirements on all tobacco and nicotine products where not already in place, and ensure these measures are maintained and enforced in countries where they exist.

These measures limit exposure by making harmful products less accessible, attractive, and affordable. Regulations on the use of nicotine products in public places should be actively enforced to reduce involuntary exposure.

2. Protect Youth through Prevention and Digital Marketing Regulation

Ban digital marketing and influencer promotion of nicotine products, enforce full transparency in advertising, and invest in monitoring of product use, sales channels and emerging trends. Combine this with school-based prevention that addresses mental health challenges and social drivers, not just individual choices.

Efforts must also work toward the establishment of generational sales. Protecting young people from tobacco industry manipulation requires both cultural change and robust policy enforcement.

3. Guarantee Access to Cessation and Invest in Innovation

Expand access to evidence-based nicotine cessation support services through public coverage and integration into everyday health systems. At the same time, sustained investment is needed in independent research and the development of new cessation tools, including breakthrough treatments.

Embedding mental health into nicotine addiction treatment frameworks is essential to address the emotional and behavioural dimensions of addiction. Cessation must be timely, free from stigma and universally accessible to become the default, not a privilege.

4. Strengthen Regulatory Accountability and Prohibit Tobacco Industry Influence

Establish systems to monitor and enforce tobacco control policies, including mechanisms to track implementation, evaluate progress, and ensure transparency. Ensure that tobacco industry-funded research is excluded from public health decision-making. Fully implement WHO Framework Convention on

Tobacco Control (FCTC) Article 5.3 by prohibiting any direct or indirect involvement of the tobacco industry in policymaking. Transparency measures must extend beyond national borders to prevent cross-border lobbying and regulatory evasion.

Strengthen national tobacco laws, prosecute violations, and impose substantial fines for violations such as illegal advertising and sales to minors. Develop digital instruments to monitor and ensure compliance. Ban financial relationships between public officials and tobacco interests and require full disclosure of all contact.

Policymakers should be educated on evolving products and tobacco industry tactics to support proactive and evidence-based regulation. Without transparency, legal deterrence and ongoing political will, the tobacco industry will continue to adapt, exploit loopholes and undermine public health efforts.

5. Mandate Independent Product Safety and Disclosure
Require all nicotine products to undergo independent testing for health risks before entering the market, with costs covered by the tobacco industry itself. Tobacco companies must publicly disclose product contents to ensure transparency and public oversight.

Patient Advocacy Groups

Advocacy groups play a key role in reframing nicotine use as a form of addiction, breaking the stigma and ensuring that policies focus on patient-focused outcomes. These actions empower communities and push for a care system that supports both physical and mental well-being.

1. Amplify Lived Experience and Tackle Stigma
Empower people living with chronic respiratory conditions and nicotine dependence to speak out and advocate for access to cessation support. Sharing real stories helps build understanding of the issue, reduce blame, and shift public and political perception toward compassion and urgency.

2. Ensure Equity and Mental Health Support
Push for accessible, publicly funded cessation treatments that integrate psychological support into respiratory health and cessation services. Addressing mental health as part of nicotine addiction is key to treating the whole person, not just the habit. Cessation programs should be personalised to reflect cultural contexts and local needs, with training extended to community clinics. Engage in global collaboration by sharing cessation practices freely across borders to improve reach.

3. Mobilise Communities to Demand Change
Change is most powerful when rooted in a range of diverse local voices, including cultural networks, religious communities and non-smoking groups.

Support youth-led movements and partner with schools to call for smoke-free and clean air, strong regulation, and accountability. Empower community-based interventions that shift responsibility from individuals to collective structures. Collaborate with NGOs to co-develop policy responses alongside governments. Engage journalists to amplify patient stories and ensure lived experiences shape the public narrative.

Tobacco Control Advocates

Advocates are challenging corporate tactics, reshaping public narratives, and building resilient coalitions. Their actions aim to dismantle the tobacco industry's social influence across institutions and communities.

1. Build Coalitions and Strengthen Community Advocacy

Form cross-sector alliances across health, legal, education, and communication sectors to challenge the tobacco industry's tactics both nationally and internationally. Coordinated advocacy makes it harder for tobacco actors to divide stakeholders or exploit policy gaps.

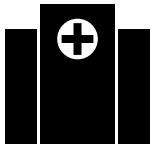
Support the development of community networks that reflect regional discrepancies, recognising that institutional priorities may differ. At the same time, contribute to sharing best practices across countries.

2. Challenge the Tobacco Industry Legally

Hold the tobacco industry legally accountable for malpractice and regulatory violations. Challenging corporate credibility helps weaken the tobacco industry's political influence and public acceptance.

3. Challenge the Tobacco Industry Publicly

Design culturally relevant and generationally tailored campaigns ("advertisement against the tobacco industry") by promoting health, environmental responsibility, and social justice. Reveal the tobacco industry's tactics and the social, health, and environmental harms linked to nicotine products. Supporting cultural and generational change helps protect young people and reorient public discourse.



Public Health Bodies

Public health bodies need to focus on integrating cessation into primary care, adapting to emerging trends, and extending cross-sector collaboration.

1. Integrate Cessation into Routine Care

Make cessation interventions a standard part of primary care, with clinicians trained to refer patients to further cessation support services. Framing nicotine use as an addiction and chronic condition helps destigmatise it and supports its inclusion in broader disease management strategies. At the same time,

ensure that cessation support is available through community-based, school-centred and digital programmes, especially for vulnerable groups. Digital technologies require tailored approaches, such as embedding QR codes on product packaging that link users directly to support services.

2. Advance Independent Research to Guide Responsive Interventions
Support comprehensive research on the impact of the full spectrum of nicotine products, with particular focus on emerging ones and evolving usage patterns. Ensure that findings inform targeted interventions without framing these products as harm reduction tools or promoting them as safer alternatives. Involve primary care providers in data collection to better capture real-world use and trends.

3. Strengthen Cross-Sector Engagement
Engage parents as partners in prevention and work closely with schools to establish comprehensive public health standards. These should include education, early intervention, and access to voluntary cessation support. Schools should adopt supportive models that help students quit rather than punish them for use.

Promote collaboration beyond health ministries by establishing codes of conduct and shared accountability frameworks to support a whole-of-government response. Public campaigns should highlight the environmental harm of tobacco and all nicotine products, linking personal health to broader sustainability goals.

IMPORTANCE OF PROACTIVE MONITORING AND RESPONSIVENESS

Signals to monitor for early action

Proactive monitoring and response are essential to sustaining progress and navigating emerging challenges in the evolving landscape of nicotine use and chronic respiratory diseases. Signals to monitor are early warning signs that a particular future trajectory is beginning to unfold. For instance, the repeal or weakening of tobacco policies may indicate rising tobacco industry influence and a risk of public health priorities backsliding. Early detection of such signals allows for timely action, such as reinforcing regulatory frameworks and mobilising public support.

Health systems and policymakers must remain alert to shifts in product innovation, marketing strategies, patterns of use, and policy environments. Among others, signals that should be monitored include:

- Trends in tobacco and nicotine use across age groups, gender, and socioeconomic backgrounds, including access to cessation support.
- Emergence, availability and uptake of nicotine, including tobacco products.
- Prevalence and incidence of CRDs, including access to treatment.
- Shifts in social media culture and marketing strategies.
- Prevalence of cross-border retail, illicit trade and sales on unregulated platforms.
- Changes in national tobacco control policies and enforcement levels.

Monitoring these can be supported by real-time data collection, national surveys, school-based studies and comparative policy tracking across countries. These insights should then inform strategic actions, while ensuring that research and dedicated resources are allocated to evaluate their impact and iteratively adapt responses over time. When supported by coordination across government levels and sectors, early signals can be turned into interventions that are both evidence-based and responsive in real time.

Call to action for continued stakeholder collaboration and foresight

Without continued monitoring and action, the hope for a tobacco-free generation could slip away. Reality could become the scenario of the Ashtray Planet, where smoking and vaping may remain common and widely accepted. Hospitals are left to treat the damage, but little is done to stop it from happening in the first place. In the end, the world forgets how far we have come, and tobacco once again becomes part of daily life.

The scenarios, however, emphasise that the future is still in play. Achieving a future free from tobacco and even nicotine is not a passive outcome but the result of deliberate, sustained collaboration among policymakers, health institutions, communities, and individuals. By aligning efforts across sectors and staying committed to equity, public trust, and long-term prevention, the vision of a healthier, nicotine-free world can become the reality. The longer we wait, the harder it becomes to reverse the damage, the time to act is now.

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