LIVES SAVED

Report

SAVING 692,000 LIVES IN IRELAND, TAIWAN & CHILE

The impact of tobacco harm reduction (THR)

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REPORT SUPPORTED BY INTERNATIONAL AND LOCAL TOBACCO HARM REDUCTION EXPERTS

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Nearly 692,000 LIVES COULD BE SAVED up to 2060 by integrating harm reduction methods into tobacco control policies in Ireland, Taiwan and Chile

Executive Summary

Global progress to end smoking has stalled. Current approaches to tobacco control have not been sufficient. The World Health Organization (WHO) estimates that 1.27 billion people globally use tobacco products. More than eight million people die annually from tobacco use. This is unacceptable.

This last report for 2024 focuses on three important countries in different WHO regions of the world – Ireland, Taiwan and Chile. A total of 48 million people live in these countries. Thousands die prematurely every year because they use tobacco products.

WHO projects that smoking prevalence in Ireland will decrease from 35% in 2020 to 16.8% in 2025 and for Chile, a decrease from 47.3 % in 2020 to 26.2% in 2025. As WHO does not recognise Taiwan as a sovereign state, no WHO projections are available.

Data presented shows that tobacco use contributes to several major causes of death in these countries that are set to increase over the next few decades. These include lung and oral cancer, chronic obstructive pulmonary disease (COPD), heart disease and stroke. They will impose significant human and economic costs.

The report considers how tobacco harm reduction (THR) products could reduce this burden. THR products use nicotine without the deadly exposures that cause harm. THR products (e-cigarettes/vapes, heated tobacco products, snus, oral nicotine pouches and e-shisha products) are rapidly gaining traction among consumers worldwide. But in most countries, these innovations have not yet been embraced by physicians and governments as key to cutting premature deaths.

The report comes as the quality of evidence on the benefits of smoking cessation and THR has strengthened. Cessation at every age is associated with longer survival, and switching to THR products is almost twice as effective for cessation as nicotine replacement therapies. While long-term studies on the potential positive health effects of switching to THR are still needed, results of studies using biomarkers of future diseases are promising.

This report also comes at a time when many countries have recently reversed bans on many THR products and liberalised their approach to THR.

However, in Ireland (and the European Union), Taiwan and Chile the governments are currently in the process of reviewing tobacco control policy, also pertaining to smoke-free nicotine alternatives. The debate includes discussions which could affect the acceptability of these products for consumers (e.g. possible flavour bans), their affordability (e.g. taxes equivalent to combustible tobacco products) and accessibility (e.g. plain paper packaging).

Meanwhile new and innovative THR products are being developed worldwide and THR's role in smoking cessation and harm reduction have been well documented. There is growing acceptance of the value of THR and increasing demand for THR products by consumers.

We calculated the combined impact of embracing THR, better cessation services and improved lung cancer treatment in the three countries on long-term trends in health.

The analysis shows that over 692,000 lives in Ireland, Taiwan and Chile could be saved by 2060 through these interventions, compared to continuing with standard tobacco control alone.

We calculated the combined impact of embracing THR, better cessation services and improved lung cancer treatment in Ireland, Taiwan and Chile on long-term trends in health

IRELAND

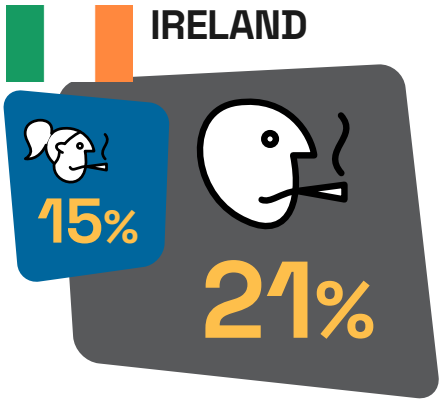

Figure 1: Ireland adult smoking rates by sex, 2023

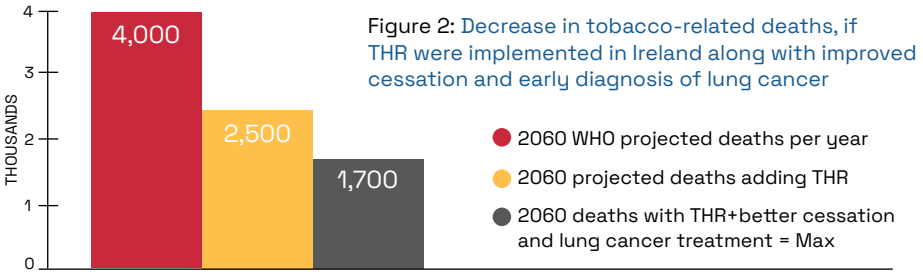

Figure 2: Decrease in tobacco-related deaths, if THR were implemented in Ireland along with improved cessation and early diagnosis of lung cancer

The analysis shows that **more than 92,000 lives could be saved by 2060** through these interventions, compared to continuing with current WHO-directed tobacco control efforts alone

TAIWAN

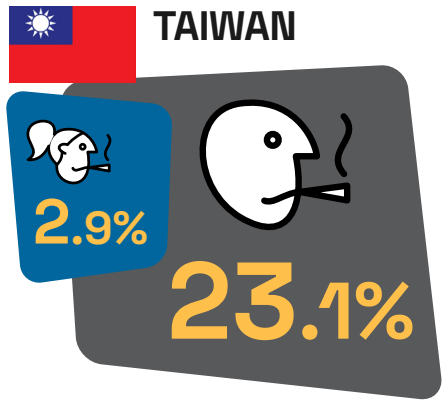

Figure 3: Taiwan adult smoking rates by sex, 2023

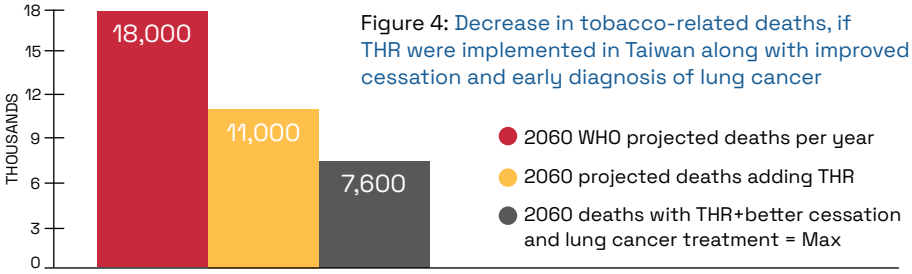

Figure 4: Decrease in tobacco-related deaths, if THR were implemented in Taiwan along with improved cessation and early diagnosis of lung cancer

The analysis shows that **more than 416,000 lives could be saved by 2060** through these interventions, compared to continuing with current WHO-directed tobacco control efforts alone

CHILE

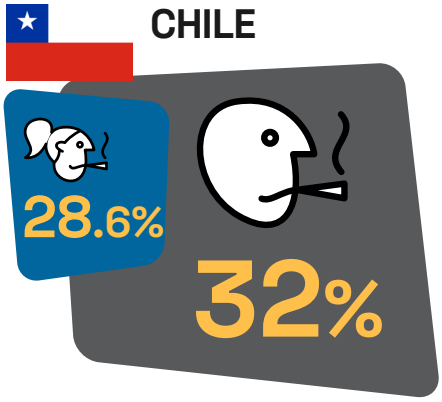

Figure 5: Chile adult smoking rates by sex, 2023

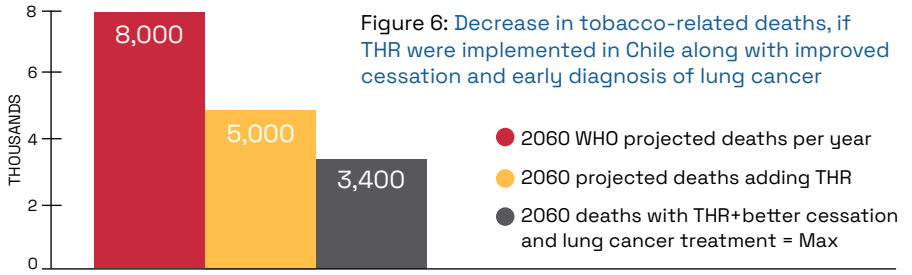

Figure 6: Decrease in tobacco-related deaths, if THR were implemented in Chile along with improved cessation and early diagnosis of lung cancer

The analysis shows that **more than 184,000 lives could be saved by 2060** through these interventions, compared to continuing with current WHO-directed tobacco control efforts alone

Source: Smoking Prevalence: WHO report on the global tobacco epidemic 2023 country profiles

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To achieve these gains, key actions are needed, including:

- **Activating health professionals** (especially physicians) to communicate the benefits of THR to patients, in all clinical encounters, to counter disinformation about nicotine and the value of THR, and to develop national equivalents of the Royal College of Physicians' report on THR and vapes to guide physicians.
- **Encouraging risk-proportionate regulation** - Governments should continue to revise regulations to improve access, affordability and acceptability for consumers to less harmful nicotine / THR products.
- **Strengthening consumer representation** - Creating independent, science-based consumer groups able to advocate for their needs, based on sound science.
- **Governmental investment in national science and research** - Most publicly funded research on THR is carried out in the US and Europe and exported worldwide. Local investment in science and scientists ensures that locally relevant research is developed. That leads to the establishment of local expertise, which in turn leads to better informed local policies and policymakers.

Embracing THR, smoking cessation and improved lung cancer treatment represents a major opportunity for Ireland, Taiwan and Chile to dramatically improve the health of their populations.

Rationale

GLOBAL PROGRESS TO END SMOKING HAS STALLED

Current approaches to tobacco control have stalled. The World Health Organization (WHO) projects that 1.27 billion people globally will smoke by 2025[1], and that tobacco use will kill 8.7 million annually.[2] Deaths are projected by WHO to increase to 10 million in five years before declining to about 6.5 million by 2060.[3] This is not what public health success looks like.

We focus on three countries: Ireland, Taiwan and Chile. These three countries do not have comparable lifestyle behaviours and exhibit variations in resources and levels of economic development. These factors have an impact on the use, trends and types of tobacco products used in each country.

Based on the WHO report on the global tobacco epidemic, 2023,[2] Ireland has a male smoking prevalence of 21%, while the female smoking prevalence is only 15%. Taiwan has a male smoking prevalence of 23.1% and the female smoking prevalence is only 2.9%. Chile has a male smoking prevalence of 32%, whie female smoking prevalence is 28.6%.

This report aims to provide an alternative vision of what is possible, in three different countries. We consider the benefits of interventions based on tobacco harm reduction (THR) products, which include nicotine without the deadly exposures that cause the harms. As stated in a recent article by 15 past presidents of the Society for Research on Nicotine and Tobacco (SRNT), "Nicotine is the chemical in tobacco that fosters addiction. However, toxic constituents other than nicotine, predominantly in smoked tobacco, produce the disease resulting from chronic tobacco use."[4]

These THR products include vapes, oral nicotine pouches, e-shisha and heated tobacco products available in all these countries. They are gaining traction with consumers but are not yet embraced by physicians and governments as key to cutting premature deaths. We also consider the benefits of better treatment for lung cancer, knowing it accounts worldwide for 2.5 million cases and 1.8 million deaths a year.[5]

WHO NEGLECTS THE LIFE-SAVING POTENTIAL OF TECHNOLOGICAL INNOVATION

The WHO Framework Convention on Tobacco Control (FCTC) is the first international treaty negotiated under the auspices of WHO. FCTC has led international control efforts for over two decades. Decisions taken at its governing body's 2024 gathering (known as COP10) focused on a variety of worthy issues, including environmental effects of tobacco cultivation and cigarette filters, and guidelines for tobacco advertising and media promotion.[6]

However, COP10 did not discuss tobacco harm reduction (THR). Nor did it address the role of innovation and technology improvements that could reduce tobacco harms, and the need to adapt policies as these become available.[7]

This omission from WHO's first treaty, not to elaborate on THR methods, has had two unfortunate implications. First, it perpetuates a view among public health experts that innovation and new technology is irrelevant to ending smoking. Second, it implies that equity in access to effective, life-saving technologies is not relevant in tobacco control. That partly explains why access to nicotine replacement therapies (NRT) remain paltry across LMICs.[8]

We have seen remarkable progress across the fields of biotechnology, pharmaceutical innovation and diagnostics led by private companies and supported in part by leading health research funders such as the U.S. National Institutes of Health (NIH). The result is that a range of THR products have met the United States Food and Drug Administration (USFDA) criteria of being "appropriate for the protection of public health".[9] They include four major categories: heated tobacco products, e-cigarettes, snus and oral nicotine pouches. All of them use nicotine. None involves combustion.

All substantially reduce exposure to the toxic substances in combustible cigarettes.[10,11] One new addition, a charcoal-free shisha, represents a unique potential contribution for tobacco harm reduction in those countries where it is available, notably in the Middle East.[12,13]

LIVES SAVED

Benefits of Tobacco Harm Reduction (THR)

The quality of evidence about the benefits of THR for cessation and harm reduction has strengthened

In recent months, leading medical journals have published views that support the value of smoking cessation and tobacco harm reduction.

Cho and colleagues, writing in NEJM Evidence[14], draw on four national cohorts involving 1.48 million people followed for 15 years to produce updated data on the benefits of adult cessation by age. They state: "Cessation at every age was associated with longer survival, particularly cessation before 40 years of age." Cho et al. shows no differences in survival between men and women who never and formerly smoked before age 40, compared to a decade difference among those who quit between 50-59.

Note that in the older age group, former smokers still show a decade advantage in survival compared to current smokers. No other public health interventions can achieve this for people at age 50.

Pair this with a Korean study from JAMA Network Open, focused on cancer risk following cessation. Almost three million people were followed for over 15 years. Regardless of quitting age, a significant reduction in cancer risk was observed.[15] The Lancet[16] and the New England Journal of Medicine[17] each recently carried articles calling for a greater focus on the value of THR for cessation. Beaglehole and Bonita (both previous directors of chronic diseases at WHO), writing in The Lancet, make the case for WHO to adopt THR to save lives.

As they note: "The FCTC does not prohibit harm reduction approaches but leaves it up to countries to decide how to regulate e-cigarettes and other novel nicotine products."

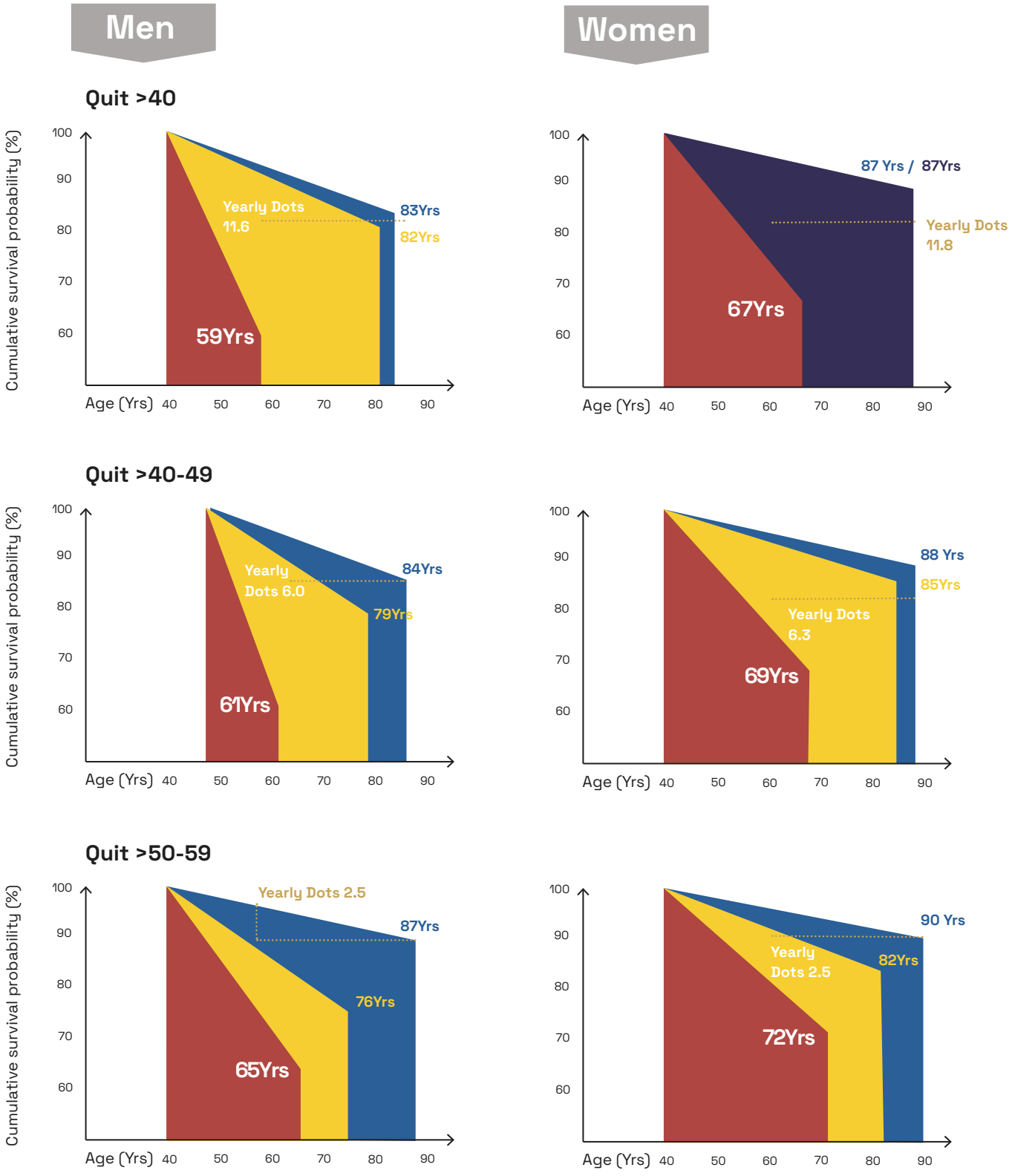
Further, "WHO's lack of endorsement of tobacco harm reduction limits healthier choices for the 1.3 billion people globally who smoke and who are at an increased risk of early death."

Nancy Rigotti of Harvard Medical School, writing in the NEJM, suggests that we have reached a "tipping point" in the quality of trial evidence, that requires physicians to "acknowledge this progress and add e-cigarettes to the smoking cessation toolkit".

Figure 7: Life expectancy gains by age in men and women

This figure shows an Illustrative model, based on the article by Cho et al, NEJM Evidence, 2024

Never Smoked Former Smoker Current Smoker



WHY DOES THIS MATTER FOR THR?

Multiple studies, and Cochrane systematic reviews,[18] conclude that e-cigarettes (vapes) are almost twice as effective at achieving cessation than NRTs. In short, current evidence suggests that e-cigarettes are the most widely available effective means for smokers to quit. Cho et al.'s comments in the NEJM about the benefits of smoking cessation at every age do not differentiate between cessation methods; they apply to quitting with THR products or with NRTs.

More studies are needed to thoroughly assess the effectiveness of snus, nicotine pouches and heated tobacco products as cessation interventions. Further, there is a major gap in knowledge about how to reach those who smoke, are older than 40 years of age, and smoke heavily (more than 20 cigarettes a day).

The recent WHO guidelines on cessations ignore the potential health gains that addressing this group of smokers would achieve. They constitute about 20-25% of all adult smokers yet account for more than 70% of all lung cancer and COPD cases. Manufacturers of THR products have also not addressed these smokers tending to focus on younger, lighter smokers.[25]

Table 1 shows the current state of play regarding clinical trials, cessation and all major THR categories. It shows that Randomised Controlled Trials (RCTs) and solid evidence about the effectiveness of cessation is strongest for e-cigarettes, research is under way in other categories. Given the diversity of THR use and legal availability, Indonesia is well placed to carry out research across several THR categories.

E-CIGARETTES (VAPES): Several RCTs have been completed allowing for a continuously updated systematic review by the Cochrane Collaboration	Electronic cigarettes for smoking cessation - Lindson, N - 2024 | Cochrane Library
ORAL NICOTINE POUCHES: No systematic review. Several studies are in progress	• Project 3: Randomized Placebo-controlled Trial of Nicotine Pouches in Smokers — Penn State (psu.edu) • Clinical study protocol on electronic cigarettes and nicotine pouches for smoking cessation in Pakistan: a randomized controlled trial - PMC (nih.gov) • Using Pod Based E-Cigarettes and Nicotine Pouches to Reduce Harm for Adults with Low Socioeconomic Status Who Smoke: A Pilot Randomized Controlled Trial | Nicotine & Tobacco Research | Oxford Academic (oup.com) • JMIR Research Protocols - Biomarkers of Exposure and Potential Harm in Exclusive Users of Nicotine Pouches and Current, Former, and Never Smokers: Protocol for a Cross-sectional Clinical Study
SNUS: Several completed studies	• Randomized Trial to Compare Smoking Cessation Rates of Snus, With and Without Smokeless Tobacco Health-Related Information, and a Nicotine Lozenge | Nicotine & Tobacco Research | Oxford Academic (oup.com) • Randomised clinical trial of snus versus medicinal nicotine among smokers interested in product switching | Tobacco Control (bmj.com) • Randomized Clinical Trial of Snus Examining the Effect of Complete Versus Partial Cigarette Substitution on Smoking-Related Behaviors, and Biomarkers of Exposure | Nicotine & Tobacco Research | Oxford Academic (oup.com)
HEATED TOBACCO PRODUCTS: One study published with an update to 24 weeks being completed	• Comparing the Effectiveness, Tolerability, and Acceptability of Heated Tobacco Products and Refillable Electronic Cigarettes for Cigarette Substitution (CEASEFIRE): Randomized Controlled Trial - PMC (nih.gov)

Table 1: Status of RCTs to assess the effectiveness of THR for cessation

The United States' FDA has granted "modified risk tobacco product" status to some oral and heated tobacco products based on submitted scientific evidence.[19] Real-world evidence also exists, including meaningful reductions in cigarette smoking in countries such as Sweden and Japan due to switching to THR products.[20]

Because these are newer technologies, we do not have studies on long-term effects of switching to THR products. In the meantime, we can look to the plethora of impressive studies using biomarkers of outcomes that have high predictive value for cancers, respiratory and heart disease.[21,22,23] These studies are used by companies in their USFDA applications and deserve to be cited and used more extensively by the public health community when briefing policy-makers.

COUNTRY-SPECIFIC STUDIES OF LIVES SAVED ARE NEEDED TO DRIVE FOR NATIONAL CHANGE

Across diverse disciplines, there is a long history of using rigorous methods to provide data on alternative futures.[24] Such "foresight studies" provide policymakers and the public a compelling vision of a future that is better than the status quo and is possible through the application of knowledge and interventions available today. We apply such an approach to show that it is possible to influence the course of the tobacco epidemic.

Analysis of key indicators in Ireland, Taiwan & Chile

IRELAND

Ireland has a population of 4.9 million. Some 6,000 people die prematurely every year from combustible tobacco and toxic smokeless tobacco products. GDP per capita in Ireland is $10,400. Life expectancy in Ireland for men is 80.8 years and 84.5 years for women.

Table 2: Demographic and development data for Ireland

GDP/capita in thousands $	10.4
Years of Educational Attainment (2021)	12.2
2021 Population in millions	4.9
2021 life expectancy males	80.8
2021 life expectancy females	84.5

Source: Population, schooling life expectancy source: IHME country profiles (https://www.healthdata.org/research-analysis/health-by-location/profiles) GDP/capita source: World Bank (https://data.worldbank.org/indicator/NY.GDP.PCAP.CD)

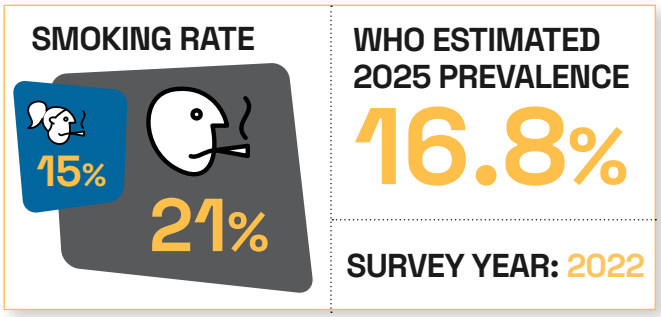
Table 3: Top five risks underpinning death, disease, and disability in Ireland

Rank (2021)	Ireland
1	Tobacco
2	High BMI (Body Mass Index)
3	High BP (Blood Pressure)
4	High fasting plasma glucose
5	Diet

Source: IHME country profiles. https://www.healthdata.org/research-analysis/health-by-location/profiles

Table 3 shows that tobacco use is the top risk underpinning disease, disability and premature death in Ireland. Diet-related and clinical factors related to chronic disease feature strongly as major risks driving the burden of disease, with high blood pressure and diabetes significant risks.

Figure 8: Smoking rates and numbers of smokers in Ireland



Source: Smoking Prevalence and WHO survey year: WHO report on the global tobacco epidemic 2023 country profiles. WHO estimates 2025 prevalence: WHO global report on trends in prevalence of tobacco use 2000–2030 (https://www.who.int/publications/i/item/9789240088283)

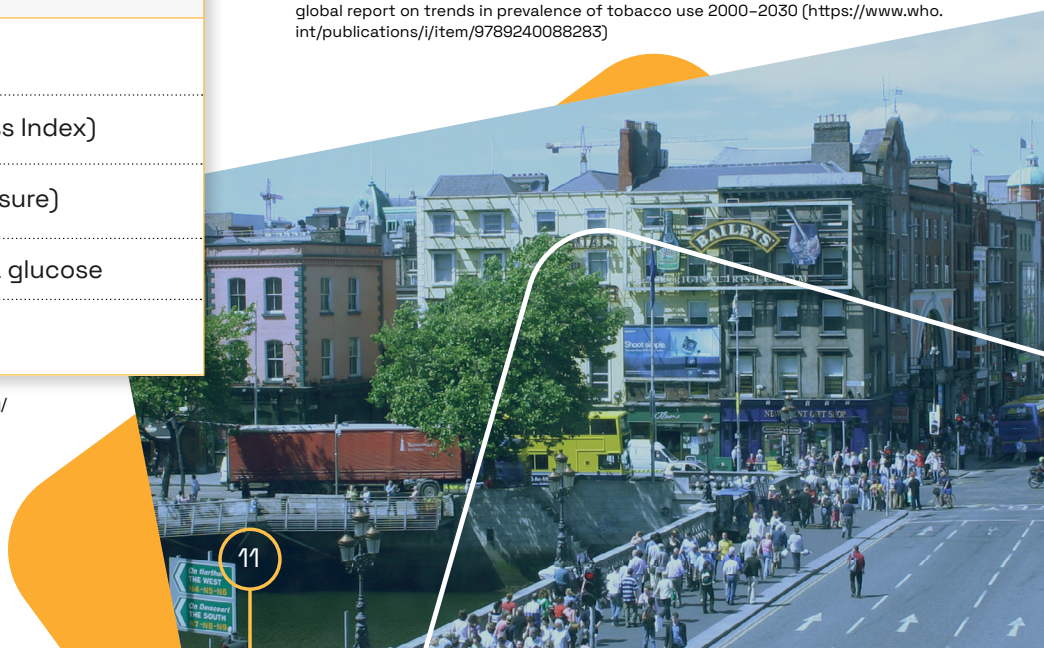


Table 4: Diversity of tobacco use and harm reduction products in Ireland

Category	Product Examples	Prevalence in Ireland	Public Health Concerns	Relation to Menthol Debates Globally
Cigarettes (Combustibles)	Multiple brands.	Most common form of tobacco use, especially among men (24,8%).	Major public health issue, contributing to around 4,500 deaths annually (4). It is associated with a wide range of health problems, including lung cancer, heart disease, stroke, and respiratory diseases (5). The economic cost of smoking in Ireland is significant, including healthcare expenditures and lost productivity (3). Efforts to control tobacco use include smoking bans in public places, plain packaging, and high tobacco taxes (4).	Menthol has been banned in countries such as the EU and the US due to its potential appeal to youth. Similar action might follow in Ireland.
Heated Tobacco Products (HTP)	Available and must comply with existing tobacco control legislation (6). Brands like NEAFS offer heated sticks that provide a tobacco- free consumption (7).	The prevalence of daily HTP use is relatively low at 0.4% (6).	Less harmful than combustible cigarettes, but still pose risks especially for nicotine dependence.	Similar debates on the use of flavours could emerge, especially for its potential attraction for youth initiation and use.
Snus	The sale of snus, a traditional oral tobacco product, is banned in Ireland (11). However, the use of snus is permitted by law (11).	Legal for use.	Less harmful than cigarettes, but still pose risks.	Similar debates on the use of flavours could emerge, especially for its potential attraction for youth initiation and use.
Oral Nicotine Pouches	Nordic Spirit and VELO, are available in Ireland (8,9). These nicotine products are tobacco free.	They are not specifically regulated but fall under the scope of the 2008 Poisons Regulations (10).	Much less harmful than cigarettes, although concern about nicotine dependence.	Not applicable.
Nicotine Replacement Therapies	All pharmaceutical brands allowed and widely available in Ireland and include products like patches, gum, lozenges, inhalers, and mouth sprays (12,13).	Permitted and marketing of these products allowed.	Not applicable.	Not applicable.

IRELAND COUNTRY ANALYSIS

Cardiovascular disease (CVD), including ischemic heart disease (IHD), is a leading cause of death in Ireland. CVD encompasses various heart and circulation diseases, such as coronary heart disease, stroke, and other blood vessel diseases.[26] Several factors contribute to IHD, including high blood pressure, diabetes, unhealthy diets, lack of physical activity and genetics.[26]

A significant report by the National Institute for Prevention and Cardiovascular Health (NIPC) and the Irish Heart Foundation highlights gaps in cardiovascular care in Ireland.[27] Despite nearly 80% of premature CVD being preventable, it remains a major health issue, causing nearly 9,000 deaths annually.[27]

The report identifies several critical gaps, such as the low rate of high blood pressure detection and inadequate screening for familial hypercholesterolemia (FH), a genetic condition causing high cholesterol levels.[27]

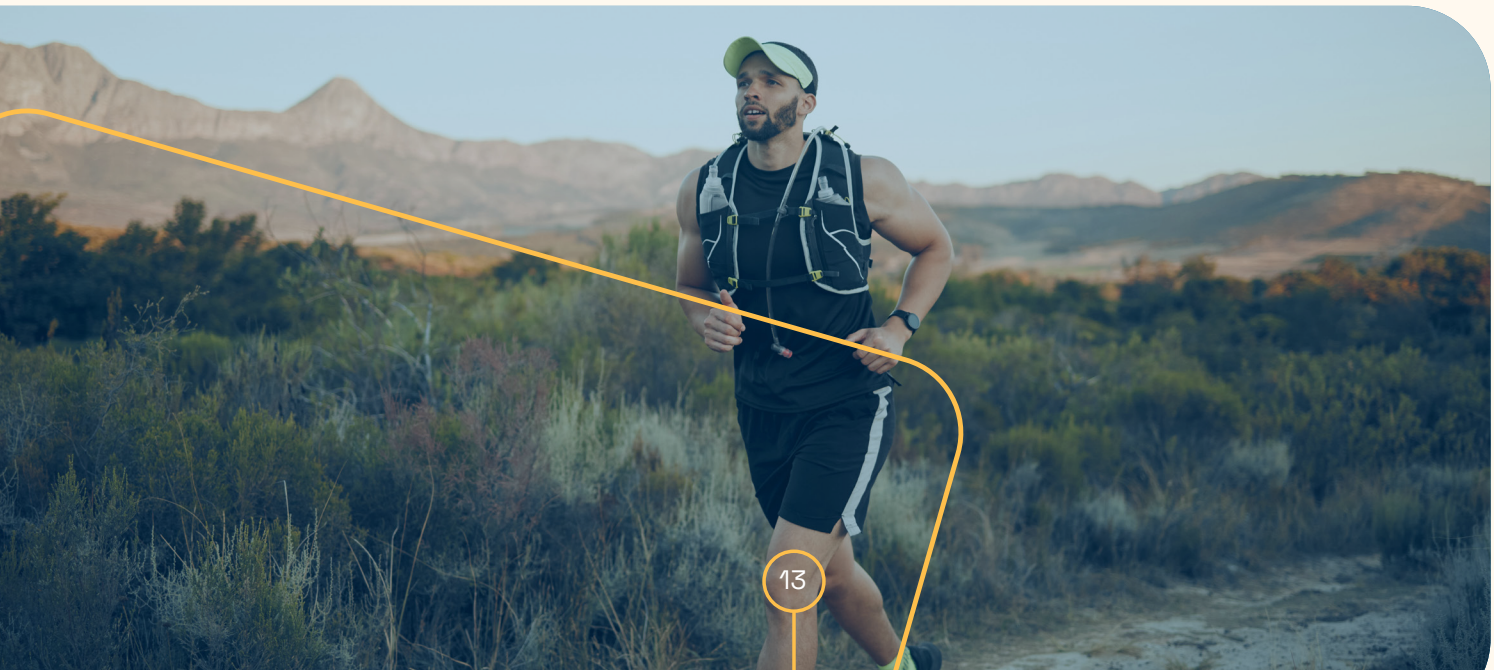
The report also emphasises the need for improved patient management post-detection of CVD. Issues include long waiting times in public hospitals and insufficient access to cardiac rehabilitation, which is crucial for recovery after cardiac events.[27] In 2021, there was a waiting list of over 2,800 people for cardiac rehabilitation, with 40% waiting at least three months after hospital discharge.[27]

Smoking is a significant risk factor for CVD. While Ireland has made strides in tobacco control, such as implementing a smoking ban, more needs to be done to address smoking-related health issues.[27] There is a need for comprehensive research into smoking cessation interventions, including the role of pharmacotherapy and tobacco harm reduction.[27] Additionally, the use of e-cigarettes and vaping as tools to help smokers quit requires further investigation.[27]

In part, the current debate in Ireland focuses on a potential flavour ban in smoke-free nicotine alternatives. It is imperative that policymakers consider studies by experts such as Abigail Friedman and SiQing Xu, 2020 on the associations of flavoured e-cigarette uptake with subsequent smoking initiation and cessation.

They state: "Adults who began vaping non-tobacco-flavoured e-cigarettes were more likely to quit smoking than those who vaped tobacco flavours. More research is needed to establish the relationship between e-cigarette flavours and smoking and to guide related policy."

'The case for flavours in tobacco harm reduction, to save lives' by Dr. Konstantinos Farsalinos provides a multi-dimensional review of the use of flavours in smoke-free nicotine alternatives, to prevent and control smoking-related disease, disability and premature death.



TAIWAN

Taiwan has a population of 23.6 million. About 27,000 die prematurely every year from combustible tobacco and toxic smokeless tobacco products. GDP per capita in Taiwan is $34,430. Life expectancy in Taiwan for men is 78.1 years and 84.6 years for women.

Table 5: Demographic and development data for Taiwan

GDP/capita in thousands $	34.43
Years of Educational Attainment (2021)	13
2021 Population in millions	23.6
2021 life expectancy males	78.1
2021 life expectancy females	84.6

Source: Population, schooling life expectancy source: IHME country profiles (https://www.healthdata.org/research-analysis/health-by-location/profiles) GDP/capita source: World Bank (https://data.worldbank.org/indicator/NY.GDP.PCAP.CD)

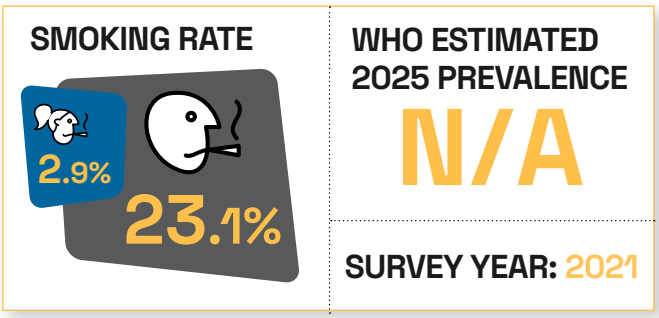
Table 6: Top five risks underpinning death, disease, and disability in Taiwan

Rank (2021)	Taiwan
1	High fasting plasma glucose
2	Tobacco
3	High BMI (Body Mass Index)
4	High BP (Blood Pressure)
5	Diet

Source: IHME country profiles. https://www.healthdata.org/research-analysis/health-by-location/profiles

Table 6 shows that tobacco use is the second most important risk underpinning disease, disability and premature death in Taiwan. Diet-related and clinical factors related to chronic disease feature strongly as major risks driving the burden of disease, with high blood pressure as a significant risk.

Figure 9: Smoking rates and numbers of smokers in Taiwan



Source: Smoking Prevalence and WHO survey year: WHO report on the global tobacco epidemic 2023 country profiles. WHO estimates 2025 prevalence: WHO global report on trends in prevalence of tobacco use 2000–2030 (https://www.who.int/publications/i/item/9789240088283)

Table 7: Diversity of tobacco use and harm reduction products in Taiwan

Category	Product Examples	Prevalence in Taiwan	Public Health Concerns	Relation to Menthol Debates Globally
Cigarettes (Combustibles)	Multiple brands.	Most common form of tobacco use, especially among men (23,1%).	Tobacco use is a significant public health issue in Taiwan, contributing to various health problems, including lung cancer, heart disease, and respiratory diseases (4). Lung cancer is the second leading cause of cancer death in Taiwan (4). The economic burden of smoking includes healthcare costs and lost productivity (5). Efforts to control tobacco use include the Tobacco Hazards Prevention Act, which regulates smoking in public places and restricts tobacco advertising (6).	Menthol has been banned in countries such as the EU and the US due to its potential appeal to youth.
Heated Tobacco Products (HTP)	Not applicable.	Heated tobacco products (HTPs) are currently banned in Taiwan unless their manufacture or importation has been approved after a health risk assessment (7). Despite this, there have been instances of illegal importation and use (8).	Less harmful than combustible cigarettes, but still pose risks especially for nicotine dependence.	Similar debates on the use of flavours could emerge, especially for its potential attraction for youth initiation and use.
Snus	Swedish snus brands.	The use of snus is permitted by law in Taiwan (3). However, it is regulated as a tobacco product under the Tobacco Hazards Prevention Act (10).	Less harmful than cigarettes, but still pose risks.	Similar debates on the use of flavours could emerge, especially for its potential attraction for youth initiation.
Oral Nicotine Pouches	Several brands.	Oral nicotine pouches are treated as pharmaceutical products in Taiwan and are subject to strict regulations (9). These products are relatively new to the market and are regulated under the general tobacco framework (9).	Less harmful than cigarettes, but still pose risks.	Not applicable.
Nicotine Replacement Therapies	All pharma brands allowed.	Widely available, include products like patches, gum, lozenges, and inhalers (11). These products are supported by national smoking.	Not applicable.	Not applicable.

TAIWAN COUNTRY ANALYSIS

Cardiovascular disease (CVD), including ischemic heart disease (IHD), is a leading cause of death in Taiwan. CVD encompasses various heart and circulation diseases, such as coronary heart disease, stroke and other blood vessel diseases.[28] Several factors contribute to IHD, including high blood pressure, diabetes, unhealthy diets, lack of physical activity, and genetics.[28]

A significant report by IQVIA highlights the growing burden of atherosclerotic cardiovascular disease (ASCVD) in Taiwan.[29] ASCVD, which includes conditions such as myocardial infarction and stroke, constitutes 79% of CVD cases in Taiwan.[29]

Despite advancements in healthcare, heart disease has remained the second leading cause of death over the past decade.[29] The report identifies several critical gaps, such as the low rate of hyperlipidemias (high cholesterol) detection and inadequate management of this condition, which is a major risk factor for ASCVD.[29]

The report also emphasises the need for improved patient management post-detection of CVD. Issues include long waiting times in public hospitals and insufficient access to cardiac rehabilitation, which is crucial for recovery after cardiac events.[29]

In 2019, around 10% of the National Health Insurance (NHI) expenditure was spent on CVD management, highlighting the economic burden of this disease.[29]

Smoking is a significant risk factor for CVD. While Taiwan has made strides in tobacco control, more needs to be done to address smoking-related health issues.[29]

There is a need for comprehensive research into smoking cessation interventions, including the role of pharmacotherapy and tobacco harm reduction.[29]

Additionally, the use of e-cigarettes and vaping as tools to help smokers quit requires further investigation.[29]

CHILE

Chile has a population of 18.8 million. An estimated 12,079 die prematurely every year from combustible tobacco and toxic smokeless tobacco products. GDP per capita in Chile is $17,000. Life expectancy in Chile for men is 76.1 years and 81.9 years for women.

Table 8: Demographic and development data for Chile

GDP/capita in thousands $	17
Years of Educational Attainment (2021)	10.9
2021 Population in millions	18.8
2021 life expectancy males	76.1
2021 life expectancy females	81.9

Source: Population, schooling life expectancy source: IHME country profiles (https://www.healthdata.org/research-analysis/health-by-location/profiles) GDP/capita source: World Bank (https://data.worldbank.org/indicator/NY.GDP.PCAP.CD)

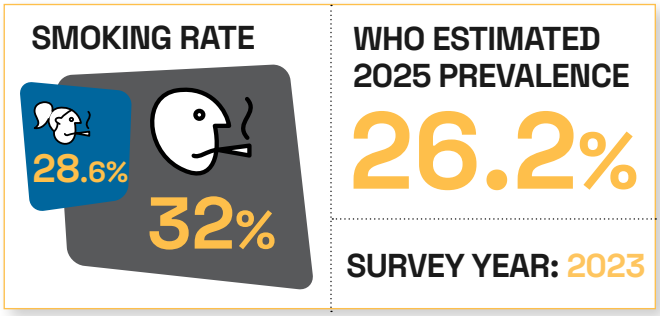
Table 9: Top five risks underpinning death, disease, and disability in Chile

Rank (2021)	Chile
1	High BMI (Body Mass Index)
2	High fasting plasma glucose
3	High BP (Blood Pressure)
4	Diet
5	Tobacco

Source: IHME country profiles. https://www.healthdata.org/research-analysis/health-by-location/profiles

Table 9 shows that tobacco use features as one of the top five risks in Chile. Diet-related and clinical factors related to chronic disease feature strongly as major risks driving the burden of disease, with high blood pressure and diabetes as significant risks.

Figure 10: Smoking rates and numbers of smokers in Chile



Source: Smoking Prevalence and WHO survey year: WHO report on the global tobacco epidemic 2023 country profiles. WHO estimates 2025 prevalence: WHO global report on trends in prevalence of tobacco use 2000–2030 (https://www.who.int/publications/i/item/9789240088283)

Table 10: Diversity of tobacco use and harm reduction products in Chile

Category	Product Examples	Prevalence in Chile	Public Health Concerns	Relation to Menthol Debates Globally
Cigarettes (Combustibles)	Multiple brands.	Most common form of tobacco use, especially among men (32%)	Significant public health issue in Chile, contributing to around 13,017 deaths annually[2]. It is associated with various health problems, including lung cancer, heart disease, stroke, and respiratory diseases[2]. The economic cost of smoking in Chile is substantial, including healthcare expenditures and lost productivity[2]. Efforts to control tobacco use include smoking bans in public places, graphic warning labels on packaging, and high tobacco taxes[2].	Menthol has been banned in countries such as the EU and the US due to its potential appeal to youth. Similar actions might be considered in Chile.
Heated Tobacco Products (HTP)	Multiple brands.	Allowed and regulated similarly to traditional tobacco products[3]. A new bill, expected to be fully implemented by 2024, will further align the regulations for HTPs with those for conventional tobacco products[3].	Less harmful than combustible cigarettes, but still pose risks especially for nicotine dependence.	Similar debates on the use of flavours could emerge, especially for its potential attraction for youth initiation and use.
Snus	Swedish snus brands.	Use of snus permitted by law in Chile[5]. However, it is not as widely used as other tobacco products[5].	Less harmful than cigarettes, but still pose risks.	Similar debates on the use of flavours could emerge, especially for its potential attraction for youth initiation and use.
Oral Nicotine Pouches	Brands like ZYN and VELO are among the most popular[4].	Oral nicotine pouches are gaining popularity in Chile as an alternative to smoking[4]. These products are legal and can be purchased without a prescription[4].	Less harmful than cigarettes, but still pose risks.	Not applicable.
Nicotine Replacement Therapies	All pharma brands allowed.	Permitted and marketing of these products allowed, supported by national smoking cessation programmes.	Not applicable.	Not applicable.

CHILE COUNTRY ANALYSIS

Cardiovascular disease (CVD), including ischemic heart disease (IHD), is the leading cause of death in Chile, accounting for around 25% of all deaths annually.[30] CVD encompasses various heart and circulation diseases, such as coronary heart disease, stroke and other blood vessel diseases.[30] Several factors contribute to IHD, including high blood pressure, diabetes, unhealthy diets, lack of physical activity and genetics.[30]

A significant report by the WHO highlights the burden of hypertension in Chile, a major risk factor for CVD.[31] Hypertension, or high blood pressure, affects around one in four men and one in five women in Chile.[31]

Despite efforts to control hypertension, it remains a critical health issue, contributing significantly to the high rates of CVD.[31]

The report emphasises the need for improved detection and management of hypertension. Chile has made progress through initiatives such as the HEARTS technical package, which standardises hypertension treatment and has been implemented in numerous health centres across the country.[31] However, there are still gaps in patient management, particularly in ensuring consistent follow-up and adherence to treatment.[31]

Smoking is another significant risk factor for CVD in Chile. While there have been efforts to reduce smoking rates, more comprehensive research into smoking cessation interventions is needed.[30] This includes exploring the role of pharmacotherapy and tobacco harm reduction strategies.[30]

Additionally, the use of e-cigarettes and vaping as tools to help smokers quit requires further investigation.[30]

THE AIM: CALCULATING THE "SIZE OF THE PRICE"

This study aims to provide national policymakers and public health experts with estimates of the value of THR, better cessation programmes, and improved access to lung cancer diagnostics and treatment in terms of measured as "lives saved" over the next three to four decades.

The Approach

We compare WHO projections of future tobacco-related deaths by 2060. These are based on continued and more effective implementation of the key components of the WHO Framework Convention on Tobacco Control (FCTC), simplified into six policy measures labelled collectively as MPOWER. Disappointingly, THR was omitted from the MPOWER[35] approach.

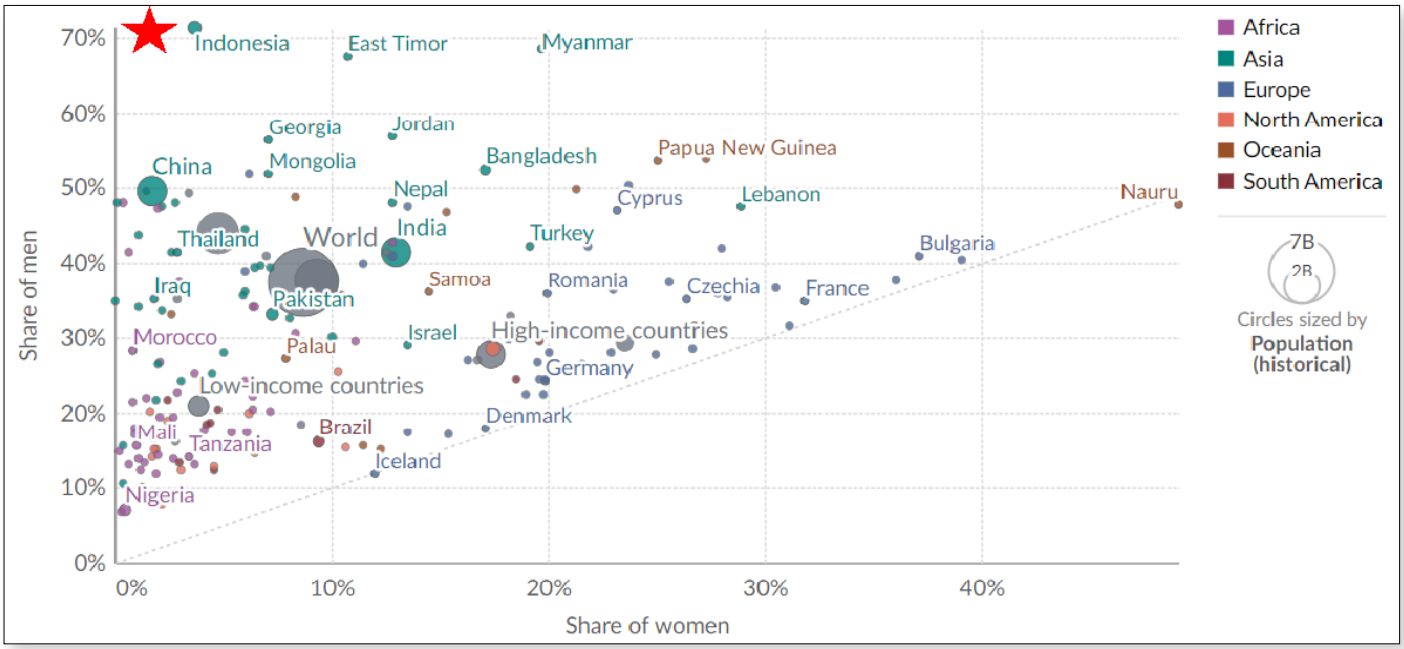
The WHO projections also leave out potential improvements in the effectiveness of cessation services, as well as access to rapidly improving diagnostics and treatments for lung cancer. We focus on lung cancer for two reasons. It accounts for 2.5 million of the 8.5 million tobacco deaths, and better diagnostics and treatment suggest that within a decade, lung cancer will no longer have a five-year survival of about 10-20% but approach the survival rate of breast cancer which has reached 90%.

Tobacco-related diseases are chronic conditions that take a few decades before the full benefits of cessation or harm reduction are visible in national data. This is a critical point to appreciate. Recent updates on the value of cessation (as described above) show that policymakers have overestimated how long it takes to achieve benefits from adult cessation: in terms of reduced overall mortality and in deaths from major tobacco-related cancers.

All the expected premature tobacco deaths by 2060 will occur in current adult smokers. If no person under 18 years of age started smoking today, lives saved among youth would take until the 2060s to become visible in national mortality data. This reinforces the need to focus on the behaviours of middle-aged smokers and users of toxic smokeless tobacco products, if we seek population health gains within the next several decades.

Many of these smokers will be in touch with health services for early-stage COPD, heart disease and possible cancer. This creates opportunities for secondary prevention.

Figure 11: Smoking rates worldwide (men vs women), 2020



The share of men versus the share of women aged 15 and older who smooke any form of tobacco, including cigarettes, cigars, pipes or any other smoked tobacco products. Electronic cigarettes are not included.

RECENT APPROACHES TO ESTIMATING "LIVES TO BE SAVED"

There have been several recent efforts to model responses to the question: "What would happen to the burden of disease if countries did embrace THR?" These have been published by academics and industry. We refer readers to our earlier reports to obtain details:

Lives Saved Reports: Integrating Harm Reduction for Tobacco Control in Brazil, LMICs, Indonesia, Japan, Nigeria, Kenya, Canada, United States, England, Australia, Middle East (all available on www.tobaccoharmreduction.net)

WHY THIS STUDY IS IMPORTANT NOW

This study comes at a time when more than a billion people smoke and THR products are used by 120-140 million people globally. Most people who use THR products live in high-income countries. In these countries we now have powerful evidence of the impact of THR use on the declining use of combustibles. This has been well described for countries such as Sweden, UK, Japan and USA.[36] We believe that when faced with a clear choice of policies, responsible governments will act to save lives and be supported by civil society.

METHODS

The approaches used by seasoned "modellers" were reviewed and simplified to their essential elements. Details are contained in earlier reports. The key assumptions are repeated below.

ASSUMPTIONS

The following assumptions are made in calculating lives saved.

- At present, NRTs are 10% effective in terms of cessation at one year. Vapes are twice as effective.
- The spectrum of THR products reduce toxic exposures by 80% and reduce tobacco-related causes of premature death by 70%. We use these conservative values for comparability knowing the emerging evidence from exposure assessments and the use of biomarkers of outcome show far greater levels of reduced harm are likely.
- Lung cancer survival at five years will increase to 50% for most countries by 2050 driven by improvements in diagnosis and treatment.
- WHO estimates that cessation services (a mix of medications and behavioural support) will be 50% effective in achieving one-year quit rates by 2035 and be available to 50% of smokers by 2045. This effectiveness projection is not aligned with research findings, but for the purpose of this study, it has been accepted as a "best case assumption".[37]
- The rate of decline in smoking will accelerate from 2035 onwards, which will lead to health impacts increasing sharply from 2045 onwards.

WHO trends suggest that from 2000 to 2025 smoking rates will fall by a third in men. We believe this could accelerate to 50% from 2030 in all countries.

ESTIMATES FROM ABOVE ARE USED TO MODEL THREE SCENARIOS

SCENARIO 1:

Status quo (standard WHO-directed tobacco control). Current trends using WHO estimates. The WHO estimate of a 35% decline in global tobacco deaths from the peak of 10 million[3] is used as the basis for calculating country-specific estimates.

SCENARIO 2:

Tobacco control + implementation of THR policies and availability of THR products. Trends that include THR uptake assuming that, as a group, they will lead to a 56% decline in tobacco deaths by 2060 and will become available increasingly from 2035.

SCENARIO 3:

Tobacco control + THR uptake + improved access to diagnostics and treatment of tobacco-related diseases. Trends that include THR and better access and use of diagnostics and treatments (focused mainly on lung cancer, which killed an estimated 1.8 million people in 2020).[38]

The differences between the WHO projections and those where THR alone, and THR with other measures were calculated assuming a linear relationship between lives saved over the decades.

NOTE ABOUT THE QUALITY AND AVAILABILITY OF DATA

The quality of evidence used to develop THR policy needs to be methodologically sound. Polarisation within the field of tobacco and nicotine science threatens the integrity of research.[39] Recent reviews of epidemiological and toxicological research related to THR have highlighted a range of basic concerns about methods used.[40,41,42,43]

Common issues include unclear hypotheses or methods not appropriate to test stated hypotheses; unsupported claims of causality; not controlling for potential confounding variables; amounts of product exposure not standardised or specified; non-representative study participants; and not considering effects of participants' previous combustible tobacco use.

Laboratory studies testing new technologies (such as vaping and heated tobacco devices) often use poorly reported or non-reproducible methods under conditions incompatible with real-world use.

Some papers have been formally retracted. Unfortunately, critiques and retractions cannot stop sloppy or slanted science from being repeatedly cited and potentially misleading policymakers, physicians and consumers.

Potential Lives Saved by THR across Ireland, Taiwan & Chile

Our analysis calculates the combined impact of embracing THR, better cessation services and improved lung cancer treatment in Ireland, Taiwan and Chile on long term trends in health.

Table 11 on the following page contains the output of the expert analysis to calculate the number of lives to be saved between 2020 and 2060 if THR and related measures are implemented. These numbers represent the additional gains, beyond those WHO estimates, that will occur because of the roll-out of MPOWER.

They represent a significant number of premature deaths. Two scenarios are listed: the first includes accelerated access to THR products, while the second also includes better access to more effective NRTs and better access and treatment of lung cancer.

These numbers are indicative of what could happen if governments, health professionals, industry and consumers aligned on policies and actions. Failure to do so will leave the WHO projection in place. It was beyond this report to calculate the impact on disease and disability or the economic benefits of THR. That requires a separate, more detailed set of analyses ideally led by countries.

Note that there is a growing body of evidence that shows that nicotine itself could well be beneficial for a range of neurological conditions[44,45], of which Parkinson's Disease is a notable one. It is projected to have a major devastating impact across all countries over the next decades.[46]

Better treatments are therefore a high priority. Of the lives saved using a background of no action, 50% will occur due to MPOWER strategies and an additional 50% due to THR, better cessation and management of lung cancer.

692,000 lives could be saved ...in Ireland, Taiwan and Chile by 2060 if THR products were made widely available, if better cessation services were developed, and if better treatment for lung cancer was introduced

LIVES SAVED

IRELAND

Table 11: Smoking related deaths and lives saved 2020-2060 through tobacco harm reduction, better cessation and lung cancer treatment

Annual Deaths from Tobacco (Thousands)	
2019	6,000
2060 WHO projected deaths per year	4,000
2060 projected deaths adding THR	2,500
THR + Improved cessation and lung cancer treatment = Max	1,700
Lives saved	
2020-2060 total deaths - THR	60,000
2020-2060 total deaths - THR plus cessation	92,000

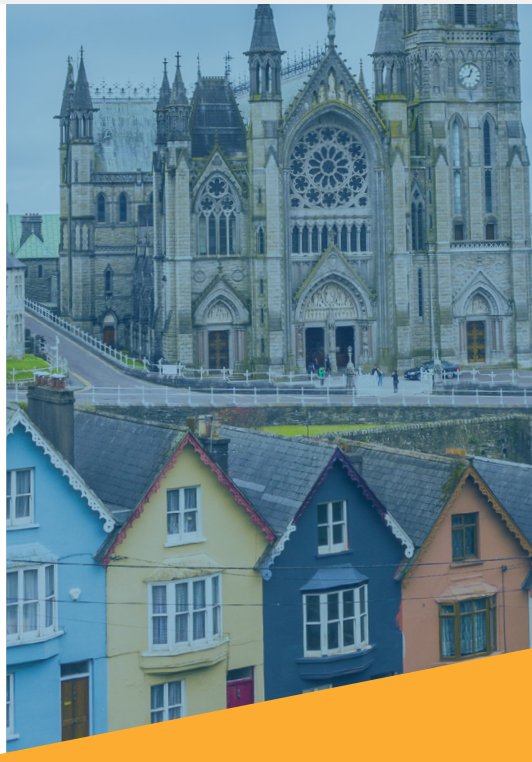
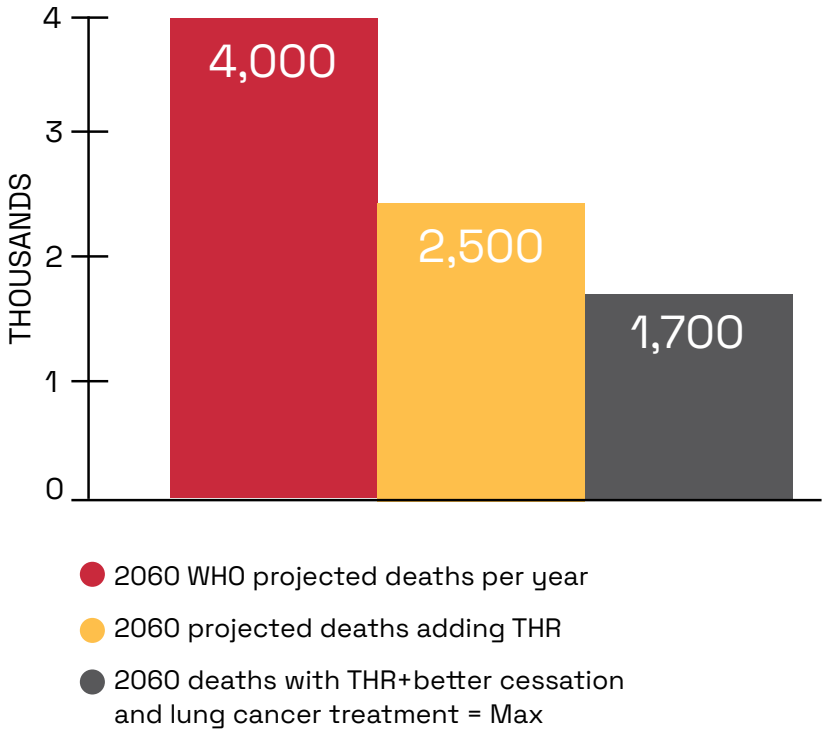


Figure 12 below shows the number of tobacco deaths expected to occur in 2060 using three scenarios: WHO projections using FCTC and MPOWER measures; WHO projections adding THR products; and WHO projection adding THR, smoking cessation and, lung cancer innovations.

Figure 12: Projected deaths from tobacco in 2060



92,000 lives could be saved in Ireland

...if tobacco harm reduction products were made widely available, if better cessation services were developed, and if better treatment for lung cancer was introduced over the next four decades. This represents a major opportunity for Ireland to improve the health of its population.

LIVES SAVED

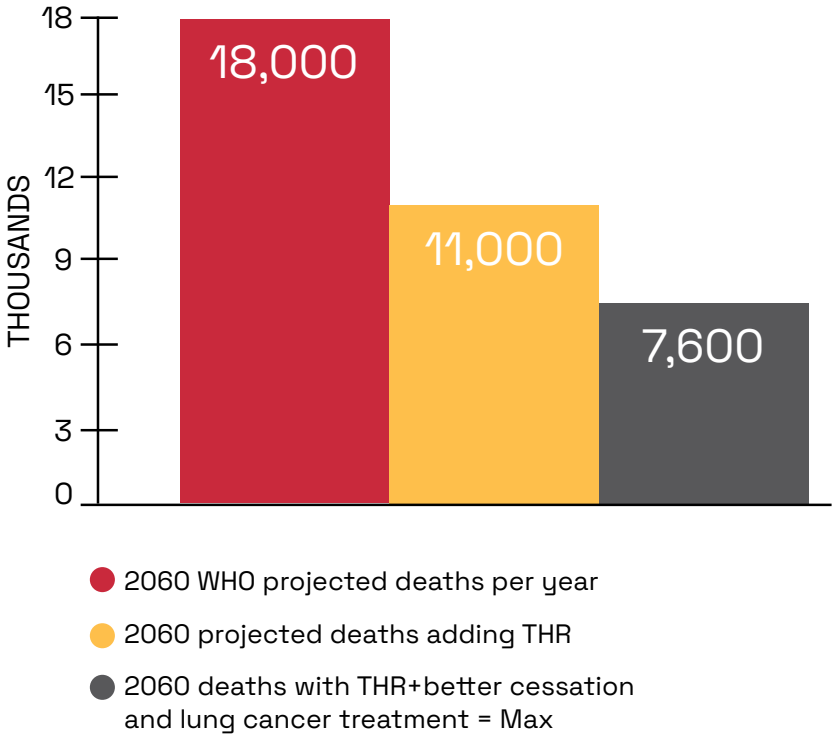
TAIWAN

Table 12: Smoking related deaths and lives saved 2020-2060 through tobacco harm reduction, better cessation and lung cancer treatment

Annual Deaths from Tobacco (Thousands)	
2019	27,000
2060 WHO projected deaths per year	18,000
2060 projected deaths adding THR	11,000
THR + Improved cessation and lung cancer treatment = Max	7,600
Lives saved	
2020-2060 total deaths - THR	272,000
2020-2060 total deaths - THR plus cessation	416,000

Figure 13 below shows the number of tobacco deaths expected to occur in 2060 using three scenarios: WHO projections using FCTC and MPOWER measures; WHO projections adding THR products; and WHO projection adding THR, smoking cessation and, lung cancer innovations.

Figure 13: Projected deaths from tobacco in 2060



416,000 lives could be saved in Taiwan

...if tobacco harm reduction products were made widely available, if better cessation services were developed, and if better treatment for lung cancer was introduced over the next four decades. This represents a major opportunity for Taiwan to improve the health of its population.

LIVES SAVED

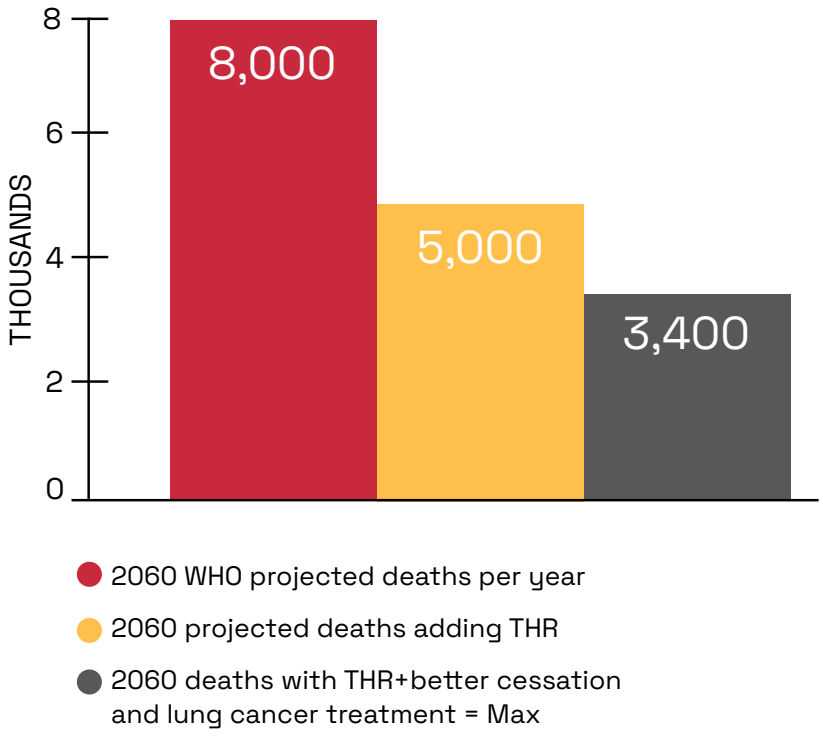
CHILE

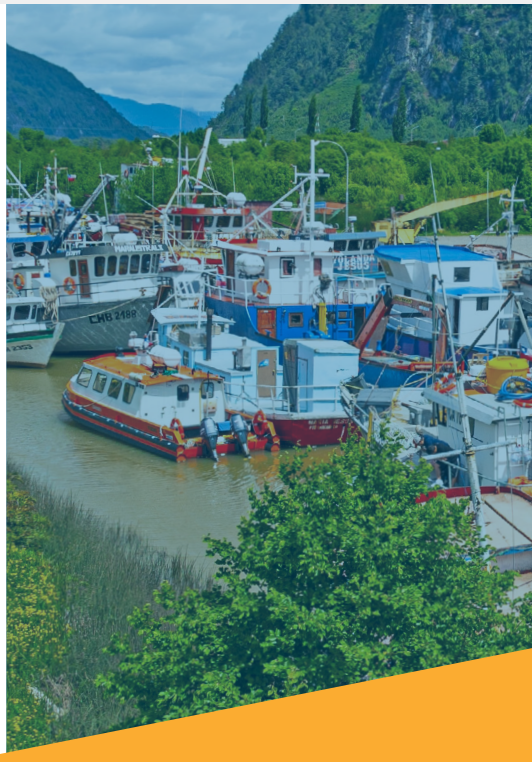
Table 13: Smoking related deaths and lives saved 2020-2060 through tobacco harm reduction, better cessation and lung cancer treatment

Annual Deaths from Tobacco (Thousands)	
2019	12,079
2060 WHO projected deaths per year	8,000
2060 projected deaths adding THR	5,000
THR + Improved cessation and lung cancer treatment = Max	3,400
Lives saved	
2020-2060 total deaths - THR	120,600
2020-2060 total deaths - THR plus cessation	184,000

Figure 14 below shows the number of tobacco deaths expected to occur in 2060 using three scenarios: WHO projections using FCTC and MPOWER measures; WHO projections adding THR products; and WHO projection adding THR, smoking cessation and, lung cancer innovations.

Figure 14: Projected deaths from tobacco in 2060





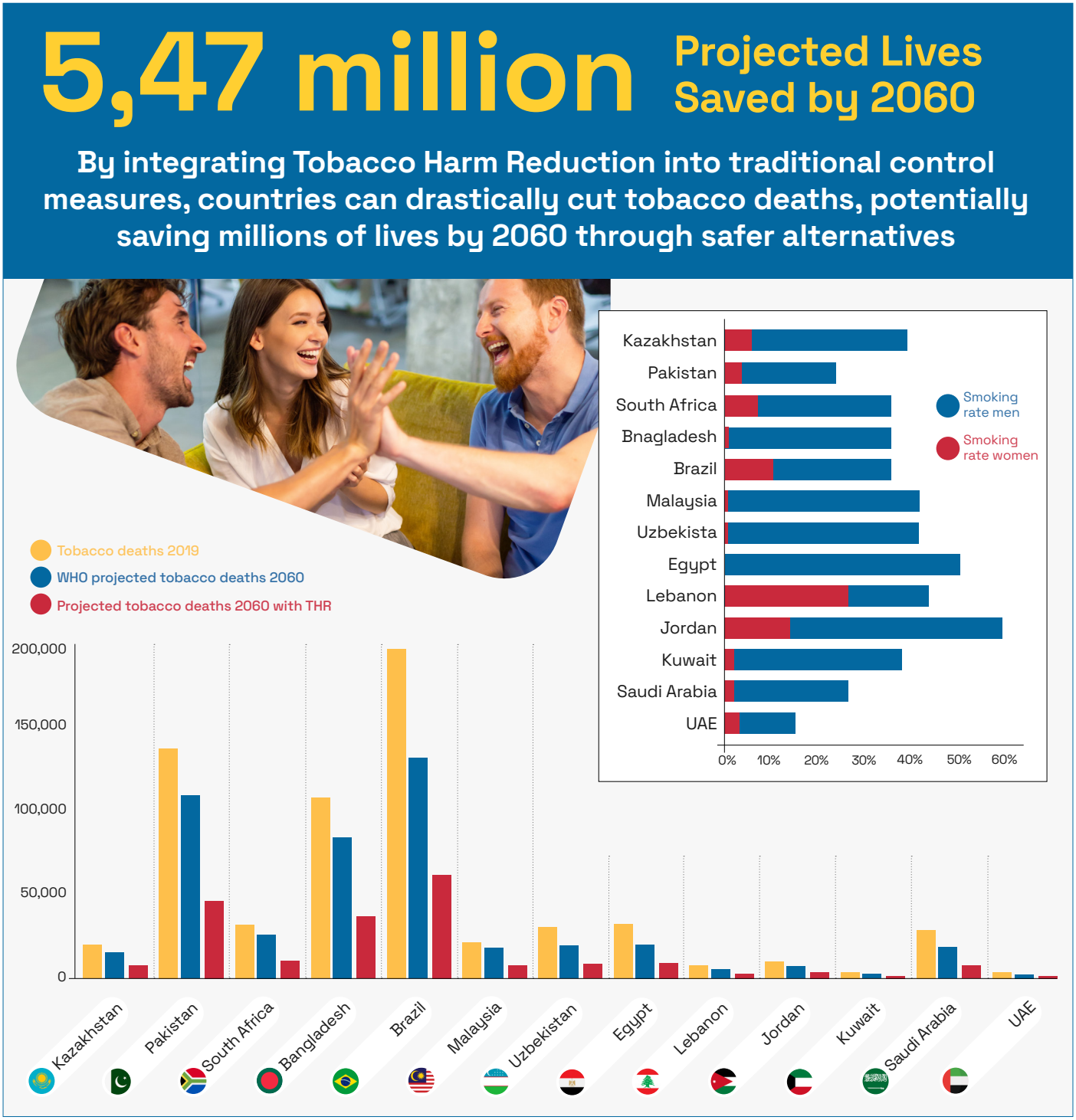
184,000 lives could be saved in Chile

...if tobacco harm reduction products were made widely available, if better cessation services were developed, and if better treatment for lung cancer was introduced over the next four decades. This represents a major opportunity for Chile to improve the health of its population.

POTENTIAL LIVES TO BE SAVED IN OTHER COUNTRIES

Along with our report on Ireland, Taiwan and Chile, our reports show that by integrating tobacco harm reduction into traditional tobacco control measures, countries can drastically cut tobacco-related deaths. Millions of lives can potentially be saved through less harmful smoke-free nicotine alternatives. The countries shown in figure 15 include a population of 897 million people, with a significant number of adults who smoke. If these countries were to embrace THR, better cessation, and more effective treatment for lung cancer, we estimate that 5.47 million lives would be saved over the next decades. Note these are over and above lives to be saved by continuing with WHO's current programmes alone.

Figure 15: Potential Lives Saved by integrating THR into Tobacco Control



What Actions are Needed to Save Lives?

This study complements and extends related studies of Indonesia, Japan, Nigeria, Kenya, South Africa, Brazil, Kazakhstan, Bangladesh, Pakistan and the Middle East. Those countries represent a significant population, in which a significant number of people still smoke cigarettes.

If they were to embrace THR, improve smoking cessation methods, and more effective treatment for lung cancer, we estimate that millions of lives would be saved over the next decades. Note these are over and above lives to be saved by continuing with standard WHO-directed tobacco control.

KEY ACTIONS NEEDED INCLUDE

- **Activating health professionals** (especially physicians) to communicate the benefits of THR to patients exposed to tobacco smoke or using toxic smokeless tobacco products in all clinical encounters, to counter disinformation about nicotine and the value of THR, and to develop national equivalents of the Royal College of Physicians' report on THR and vapes.
- **Encouraging risk-proportionate regulation**: Governments should continue to revise regulations to improve access to less harmful nicotine / THR products and invest in national science and research to advance THR. Cigarettes should be substantially more heavily regulated and taxed than reduced-risk products. That makes it easier for consumers to switch and improve their health.
- **Strengthening consumer representation and advocacy**: Creating and strengthening independent, science-based consumer and other advocacy groups able to advocate for their needs, based on sound science.
- **Governmental investment in national science and research:** Which leads to the creation of local expertise and better informed policies.

Embracing THR, improved smoking cessation methods, and improved lung cancer treatment represents a major opportunity for Ireland, Taiwan and Chile to dramatically improve the health of their populations.

Activating physicians to counter disinformation about nicotine and the value of THR, to communicate the benefits of THR to patients in all clinical encounters, and to lead policy development by publishing a major report on the state of smoking and the role of THR in ending premature deaths and disease that draws on the approaches used 60 years ago by the Royal College of Physicians.

A Activating health professionals (physicians in particular), to counter disinformation about nicotine and the value of THR, to communicate the benefits of THR to patients in all clinical encounters.

Drawing on the groundbreaking approaches used 60 years ago by the Royal College of Physicians, they should help lead policy development by publishing a major report on the state of smoking and the role of THR in preventing and controlling tobacco-related disease, disability and premature death.

PHYSICIANS SHOULD COMMUNICATE THE BENEFITS OF THR TO PATIENTS AND COUNTER DISINFORMATION.

Physicians led in the early years of tobacco control in the UK and the USA. They were the subjects of the earliest cohorts that showed that smoking kills.[47] They galvanised reports[48] that led to the first government actions. Doctors quit smoking in large numbers once they understood the evidence, though this varied by region.[49] They started cessation services for their patients, and they led the development of public health policies to end smoking.

A new 16-country survey on trust and health[50], found that physicians remain the most trusted source of information. Physicians can be at the forefront of accelerating the demise of smoking and reducing tobacco-related disease, disability and death – if encouraged to communicate harm reduction strategies to their patients. This needs to start with correcting the massive extent of disinformation. In a 2022 survey of 15,335 physicians in 11 countries, 77% incorrectly believed that nicotine causes lung cancer.[51] However, on average more than 80% of physicians were at least moderately interested in receiving training in cessation and THR.[52]

The respected polling firm Ipsos recently surveyed nearly 27,000 cigarette smokers in 28 countries, regarding their views of vaping.[53] 74% of smokers worldwide still wrongly believe that vaping is as harmful as smoking.

IRELAND

In Ireland, a significant number of physicians held misconceptions about nicotine's health effects:

- **Cancer** - Approximately 80.5% of physicians believed that nicotine directly contributes to the development of cancer[32]
- **Atherosclerosis** - Around 78% of physicians at least moderately agreed that nicotine is linked to atherosclerosis[33]
- **Chronic Obstructive Pulmonary Disease (COPD)** - About 80.9% of physicians thought that nicotine directly contributes to COPD[32]

These findings highlight the widespread misconceptions among physicians regarding the direct health impacts of nicotine, which is primarily harmful due to its addictive properties rather than being a direct cause of these diseases.

TAIWAN

In Taiwan, the key findings specific to physicians:

- A significant number of Taiwanese physicians are aware of smoke-free nicotine products and acknowledge the potential of these products to reduce harm compared to traditional cigarettes.
- Despite recognising potential benefits, many physicians express concerns about the long-term health effects of smoke-free nicotine products, citing a lack of comprehensive research.
- A significant number of physicians held misconceptions about nicotine's health effects:
  - **Cancer** - Approximately 80.5% of physicians believed that nicotine directly contributes to the development of cancer[34]
  - **Atherosclerosis** - Around 78% of physicians at least moderately agreed that nicotine is linked to atherosclerosis[33]
  - **Chronic Obstructive Pulmonary Disease (COPD)** - About 80.9% of physicians thought that nicotine directly contributes to COPD[34]

These findings highlight the widespread misconceptions among physicians regarding the direct health impacts of nicotine, which is primarily harmful due to its addictive properties rather than being a direct cause of these diseases.

PHYSICIANS SHOULD ADDRESS MISSED OPPORTUNITIES FOR SECONDARY PREVENTION AMONG PATIENTS WHO SMOKE

Millions of people are diagnosed with conditions such as COPD, IHD, early-stage cancer, stroke, other tobacco-related diseases and schizophrenia every year in Ireland, Taiwan and Chile. Over 70 percent of people with several of these conditions smoke at the point of diagnosis. A year or two after diagnosis, international research suggests that most still smoke.

Tobacco cessation is either not attempted or fails. This accelerates clinical decline and substantially adds to the burden of disease and suffering experiences by patients. Physicians should review national data on this and implement programmes that give high priority to cessation and access to harm reduction at every clinical encounter.

CHILE

In Chile, the key findings specific to physicians:

- A significant number of Chilean physicians are aware of smoke-free nicotine products such as e-cigarettes, heated tobacco products and nicotine pouches and acknowledge the potential of these products to reduce harm compared to traditional cigarettes.
- A significant number of physicians held misconceptions about nicotine's health effects:
  - **Cancer** - Approximately 80.5% of physicians believed that nicotine directly contributes to the development of cancer[57]
  - **Atherosclerosis** - Around 78% of physicians at least moderately agreed that nicotine is linked to atherosclerosis
  - **Chronic Obstructive Pulmonary Disease (COPD)** - About 80.9% of physicians thought that nicotine directly contributes to COPD[57]

These findings highlight the widespread misconceptions among physicians regarding the direct health impacts of nicotine, which is primarily harmful due to its addictive properties rather than being a direct cause of these diseases.

MEDICAL AND HEALTH EXPERTS SHOULD BE ENCOURAGED TO DEVELOP A NATIONAL EQUIVALENT OF THE ROYAL COLLEGE OF PHYSICIANS' REPORT ON E-CIGARETTES AND HARM REDUCTION

More than 60 years ago[54] the Royal College of Physicians published the first major report on the harm of smoking. Their voice over the decades has led policy development in the UK and around the world. Earlier this year they released their latest evidence review on e-cigarettes and harm reduction.[55] It is led by physicians and is meant to aid physicians in "how e-cigarettes can be used to support more people to make quit attempts while discouraging young people and never-smokers from taking up e-cigarette use".

An equivalent report for each of Ireland, Taiwan and Chile, that was led by prestigious medical societies and academies, could galvanise needed action. Ideally, this should be a project endorsed and facilitated by each country's Ministry of Health.

B Governments should continue to revise and establish risk-proportionate regulation, to improve access to THR methods and products.

The governments of Ireland, Taiwan and Chile should be encouraged to regulate alternative nicotine products proportionate to the risk they pose to health and in ways that maximise benefits and make healthier choices as easy as possible.

Preferably, the governments' regulatory progress needs to be accompanied by extensive and continuous communications programmes that engage leaders in healthcare and adults who use tobacco products. The regulations should aim to balance consumer access with public health concerns, particularly focusing on preventing youth uptake while allowing adult smokers access to THR alternatives.

Ireland will play a significant role in the current review by the European Commission of the Tobacco Products Directive (TPD). Some of the proposed changes include:

- **Stricter regulations on cross-border distance sale:** This aims to ensure better enforcement and control over tobacco products sold online across EU borders.[58]
- **Regulation of novel tobacco products:** This includes emerging products such as heated tobacco and electronic cigarettes, which pose new regulatory challenges.[58]
- **Ban on flavoured tobacco products:** Flavoured cigarettes, such as those with fruit or menthol, which are particularly attractive to young people, will not be allowed.[59]
- **Enhanced health warnings:** Cigarette packages will carry larger combined health warnings to remind consumers of the risks associated with smoking.[59]

For Ireland, these changes could potentially lead to more strict public health measures to reduce tobacco and nicotine consumption. The focus is on protecting young people and ensuring that new tobacco and nicotine products are adequately regulated. The unintended consequences of excessive regulation of the smoke-free nicotine alternatives might include a return to smoking or a significant increase in illicit trade.

Good regulatory practice needs to be studied. For example, the UK approach aimed at cutting social class gradients in adult smoking through use of THR products. In this world-first government-sponsored scheme, smokers are urged to swap cigarettes for vapes in a "Swap to Stop Scheme".[56]

C Creating independent science-based consumer groups able to advocate for their needs

HIV/AIDS patients and advocates rallied for better policies under the banner of "nothing about us, without us". This led to changes in government policies that included a commitment to harm reduction and led to better access to antiretrovirals. As a result, millions of people are living longer and healthier lives across LMICs. Similar progress could follow if we had effective new nicotine user groups around the world.

While there are many active nicotine user groups around the world, they have yet to galvanise into a movement with impact. Their advocacy to highlight that tobacco-related deaths can be prevented, according to this study, is a much-needed element. The wide support for harm reduction as a key public approach to addressing several major health issues - from alcohol and drugs, to HIV/AIDS and tobacco - suggests that NGOs and consumer groups in Ireland, Taiwan and Chile could play important roles nationally and globally.

IRELAND

In Ireland, there are several consumer associations that advocate for tobacco harm reduction:

- **Irish Heart Foundation:** While primarily focused on reducing tobacco use and its health impacts, the Irish Heart Foundation also supports measures that can help reduce harm from tobacco use. They advocate for effective policy measures to reduce preventable deaths from tobacco use.[60]
- **INNCO (International Network of Nicotine Consumer Organisations):** This global alliance includes member organisations from various countries, including Ireland. INNCO supports the rights of adult ex-smokers who use safer nicotine products to avoid toxic forms of tobacco.[61]
- **European Tobacco Harm Reduction Advocates (ETHRA):** ETHRA is a Europe-wide consumer advocacy group that promotes safer nicotine use and tobacco harm reduction. They support millions of nicotine consumers across Europe, including those in Ireland.[62,63] ETHRA has played a significant role in advocating for the inclusion of THR policy and science in the current policymaking process of the EU Tobacco Product Directive.

TAIWAN

In Taiwan, there are several consumer associations that advocate for tobacco harm reduction:

- **Taiwan Tobacco Harm Reduction Association (TTHRA):** Established in January 2019, TTHRA is the only tobacco harm reduction consumer advocacy group in Taiwan. As a non-profit organisation, TTHRA collects, analyses, translates and disseminates the latest news, research and national data to educate the public about tobacco harm reduction (THR) and aims to achieve proper regulation of THR products and a Smoke-Free Taiwan by 2040.[64]
- **Foundation for a Smoke-Free Taiwan:** This organisation works alongside other advocacy groups to promote tobacco harm reduction and support policies that reduce the harm caused by tobacco use.[65]
- **Alliance of Banning Cigarettes Taiwan:** This group is part of the broader VAPE Taiwan system and collaborates with other Asian tobacco harm reduction advocacy groups to exchange information and support THR initiatives.[65]

CHILE

In Chile, examples of active consumer associations, that advocate for tobacco harm reduction, include:

- **Asociación de Consumidores de Productos de Nicotina de Chile (ACONIC):** This organisation advocates for the rights of nicotine consumers in Chile, promoting the use of safer nicotine products as alternatives to smoking. They work to raise awareness about tobacco harm reduction and support policies that facilitate access to these products66.
- **Coalition of Asia Pacific Tobacco Harm Reduction Advocates (CAPHRA):** While CAPHRA is a regional organisation, it includes members from Chile and works to educate, advocate, and represent the rights of adult alternative nicotine consumers across the Asia-Pacific region.[67,68]

D Governmental investment in national science and research

Most publicly funded research on THR is carried out in the US and Europe and exported worldwide. Local investment in science and scientists ensures that locally relevant research is developed, it leads to the creation of local expertise and building local expertise in science leads to better informed local policies and policymakers.

EVIDENCE-BASED POLICIES

The governments of Ireland, Taiwan and Chile need local, high-quality research to fully understand the dynamics of the smoking epidemic in their countries, including why smoking rates remain so high and which interventions are most likely to succeed in reducing them. This should include a new approach involving researching the risks and benefits of integrating harm reduction methods into tobacco control.

At the Coresta 2024 conference (Figure 16) in October 2024, Dr. Derek Yach, former WHO Director, highlighted the changes needed in tobacco control research. Dr. Yach also emphasised the necessity of aligning local efforts with global initiatives to ensure comprehensive and effective tobacco control.

Figure 16: Proposed priorities for THR research

1: GLOBAL RESEARCH

- Long term effects on health
- Health effects of nicotine
- Relative effectiveness of cessation across all THR categories
- Improving secondary prevention among high-risk tobacco users
- Strengthening the quality of epidemiological and behavioural science

2: COUNTRY AND REGIONALLY SPECIFIC RESEARCH

- Surveillance - combining questionnaires and biomarkers
- THR product trends by age, sex, amount
- Healthcare providers use, knowledge and advise about THR
- Youth access trends and intervention impact
- Product content assessment

3: RESEARCH TO ADAPT POLICIES FROM HIGH INCOME COUNTRIES WITH DECLINING SMOKING RATES TO LMICS

Local research: National research, particularly in collaboration with local universities, can help answer key questions such as:

- What drives high smoking rates, particularly among men?
- Which policies, such as taxation, public health campaigns, or smoking cessation programmes, are most effective in reducing smoking rates?
- What are the social, economic, and cultural barriers to reducing tobacco consumption.

Local Universities: Collaborating with local universities ensures that research is grounded in the local context and leverages academic expertise and resources. Without this research, policies risk being ineffective or misaligned with the local context.

Localised studies allow the government to assess the real-world impact of current tobacco control policies and guide future initiatives more effectively.

About the Authors

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Dr. Yach is a former employee of the World Health Organization and of PepsiCo.

He received his MBChB from the University of Cape Town in 1979 and his MPH from Johns Hopkins School of Public Health in 1985. In 2007, he received an honorary DSc from Georgetown University. For several years Yach led major national epidemiological initiatives in South Africa. Yach then served under Director-General Gro Harlem Brundtland, as a cabinet director where he worked on the WHO Framework Convention on Tobacco Control and the Global Strategy on Diet and Physical Activity.

He led global health at Yale School of Public Health and then at the Rockefeller Foundation before becoming SVP for Global Health and Agriculture Policy at PepsiCo. After 5 years developing and leading the Vitality Institute for Prevention in New York, he founded and led the Foundation for a Smoke Free World.

Currently Yach is an independent global health consultant focused on ending smoking, supporting mental health and promoting healthy diets. He has served on advisory boards of the World Economic Forum, Clinton Global Initiative, and Wellcome Trust.

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Dr. Delon Human is a specialist family physician, global health advocate, published author, international speaker and healthcare consultant specialising in global health strategy, harm reduction and health communication.

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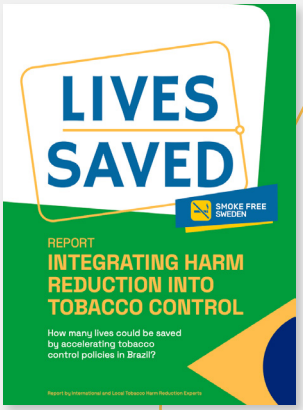

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