



The State of Tobacco Control in Ireland

HSE Tobacco Free Ireland Programme,
2018



QUIT

TFI Programme

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2018

Foreword

I am pleased to welcome this first *State of Tobacco Control Report*, which informs and supports the new HSE *Tobacco Free Ireland* Programme Plan 2018-2021. The HSE is central to delivering the *Healthy Ireland* agenda across the health services, of which tobacco is one of a set of core priorities, and ensuring we have a comprehensive understanding of the challenges we face is fundamental.

The report sets out welcome progress and describes the scope and impact of tobacco control activities undertaken by the HSE over recent years which contribute to the reductions we are seeing in the numbers of people smoking in Ireland today.

However, because tobacco use has been normalised for such a long time, it's all too easy for us to become complacent about tobacco control. The continuing toll on health, set out starkly in this report, the bleak odds facing those who continue to smoke, and the impact on families and loved ones is a call for us to strengthen our resolve to move towards a *Tobacco Free Ireland*. This report reminds us that we must ensure everyone benefits from our work to tackle smoking, especially those who bear the heaviest burden. We must also respond to new and emerging features associated with the problem.

Tobacco Free Ireland sets a bold vision: by 2025 we will enjoy a society where tobacco use has been eliminated and less than 5% of people continue to smoke.

There is more we can do to strengthen and develop the HSE role in tackling smoking. This report informs priorities and actions set out in the new HSE *Tobacco Free Ireland* Programme Plan 2018-2021 across a range of areas. It is critical to success that our work is supported by a wide framework of action under government policy, in particular that the lever of taxation and pricing is continually applied to maximum effect.

The vision of a *Tobacco Free Ireland* for a tobacco endgame will require game-changing approaches; while some opportunities are emerging, other solutions have yet to be conceived. This challenge demands strong, connected leadership to generate innovative approaches and to build the broad-based support to deliver change. I am delighted that on World No Tobacco Day 2018, we are convening with partners to discuss the theme of community action as the next step to move *Tobacco Free Ireland's* bold vision into reality.

The HSE looks forward to being part of this discussion and to working with everyone to realise a *Tobacco Free Ireland*.



Dr. Stephanie O'Keefe

National Director, Strategic Planning and Transformation, HSE

Introduction

The HSE *Tobacco Free Ireland* Programme is pleased to introduce this first *State of Tobacco Control Report*, which was developed to inform our Programme Plan 2018-2021.

We are responsible for systematically driving action by the HSE to tackle smoking. This report describes the scale and scope of our achievement and demonstrates a measurable impact on the tobacco epidemic in Ireland. At the same time, it shows that the problem we are facing remains significant, has an unequal impact across the population, and is evolving to present new, challenging aspects. Through the deep and comprehensive understanding of the situation presented in this report, we can develop and strengthen our role and priority areas for action:

- Prioritise the protection of children in all of our initiatives
- De-normalise tobacco use for the next generation
- Treat tobacco dependence as a healthcare issue
- Encourage, promote and support people who smoke to quit through our sustained QUIT campaign, development of our cessation services and through comprehensive training for our staff
- Continue to implement and maintain our Tobacco Free Campus policies and promote Tobacco Free Environments
- Protect service users, staff and the public from the effects of second-hand smoke
- Monitor, build and maintain compliance with tobacco legislation
- Work with our internal stakeholders to monitor the evidence in terms of tobacco control and participate in an active research and survey programme.
- Monitor and evaluate the effectiveness of all HSE interventions

We will take this forward in conjunction with our colleagues across health and social services, where the Hospital Group and Community Health Organisation *Healthy Ireland* Implementation Plans will be key to coordinating broad-based action that translates priorities into positive impact for local populations.

Our partners are also critical to success, since the outcome of our respective efforts are greater when we work together. We hope that this report provides a basis for continuing discussion and collaboration as we all work towards a *Tobacco Free Ireland*.

HSE Tobacco Free Ireland Programme

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Executive Summary

Ireland has a strong track record in tobacco control. Progress has been made in tackling harm caused by smoking through a comprehensive range of efforts across pricing, legislation, public education & warnings, and treatment services. The Department of Health provides leadership for the implementation of *Tobacco Free Ireland*, the current national policy on tobacco use, which sets a vision for a society where tobacco use has been eliminated and smoking prevalence is less than 5% by 2025. The Health Service Executive (HSE), through its *Tobacco Free Ireland* Programme, is responsible for actions in the following areas:

- building compliance and enforcing tobacco control legislation to protect people from tobacco smoke and to regulate advertising and retail of tobacco products;
- warning about the dangers of tobacco products through developing and delivering mass media;
- helping people to quit using tobacco products through delivering cessation services; and
- de-normalising tobacco use through the implementation of the HSE Tobacco Free Campus Policy.

Understanding progress, identifying challenges and informing planning

The overall aim of this report is to better inform HSE *Tobacco Free Ireland* Programme Planning 2018-2021 by describing the current state of tobacco control in Ireland, so as to understand where progress has been made and to identify challenges where focus is now required. The objectives were as follows:

- to assess health needs through describing the trends in the use of tobacco products and comparing those trends across population groups;
- to quantify the impact of tobacco use on health and wellbeing in Ireland;
- to describe trends in HSE tobacco control activities, including reach and impact;
- to identify recommendations for HSE Tobacco Free Programme Planning 2018-2021.

Findings of the report are summarised in the illustrated Key Indicators.

Tackling smoking - still the single greatest opportunity to protect and improve health

Smoking is continuing to decline in Ireland; however, the rate of decline means that the vision of a *Tobacco Free Ireland* may not be achievable by 2025. Despite progress, the continuing toll on public health in Ireland from smoking and second-hand smoke detailed in this report is stark: over 100 deaths and over 1,000 hospital episodes each week. While the public health burden of tobacco use in Ireland has reduced, it remains the leading preventable risk factor causing ill-health, disability and premature mortality. Put simply, tobacco control is the single greatest opportunity to protect and improve the public’s health.

Effectively delivering evidence-based tobacco control with impact

For the first time, this report collates information describing the scale and impact of the HSE role in tobacco control.

An average working day in the HSE Tobacco Free Ireland Programme

Activity	Scale
Responses to queries and complaints about tobacco control	10
Inspections and test purchases with minors to ensure compliance	60
People who smoke supported with online information	1,000
People who smoke enabled to sign up online to a quit plan	60
People who smoke provided with intensive smoking cessation support	50
People who smoke with a medical card provided with medication-based support	330
People who smoke using intensive support who became smoke free	1-in-2

A rising tide lifts all boats?

This *State of Tobacco Control Report* assesses progress in tackling smoking across different population groups – is a rising tide lifting all boats? Like most countries, the impact of tobacco in Ireland is unfolding differently for men and women, with differences in smoking behaviour, the burden of smoking-related disease and the use of smoking cessation services. There is a wide and unfair gap in smoking and its effects across the social gradient in Ireland. Some aspects of tobacco control, like the use of face-to-face services and access to medication-based supports for people with medical cards, begin to address this positively. Smoking in pregnancy and the needs of people with mental health problems also demand particular attention. Overall, considering the needs of different population groups must become central to tackling smoking in Ireland.

Maintaining control of a changing epidemic

A changing face to the tobacco epidemic is becoming clear. Declining youth smoking is a welcome testament to the impact of tobacco control measures in Ireland. However, across age groups, smoking is now most common among young adults, suggesting that the age of smoking initiation is increasing in Ireland. Occasional smoking, which includes what is sometimes referred to as “social” smoking, is also an emerging challenge. Finally, consumption of “Roll-Your-Own” (RYO) tobacco products is becoming more common in Ireland, especially among younger people who smoke.

Bringing Ireland to the endgame – is business-as-usual enough?

Through current government policy, *Tobacco Free Ireland*, a commitment has been made to move to an endgame by “*permanently eliminating the structural, political and social dynamics that sustain the tobacco epidemic, in order to end it within a specific time.*” It’s important to acknowledge that the current set of “business-as-usual” measures is serving tobacco control in Ireland well. There are, nevertheless, opportunities to further develop, strengthen and focus the HSE’s role in tobacco control. In addition, a continuing need for government to apply maximum leverage in taxation and pricing of tobacco products is clear. Overall, however, more of the same may not be enough to affect the step change required to move to the endgame.

Tobacco Free Ireland – a bold vision demanding a game change

Achieving a *Tobacco Free Ireland* will require game-changing approaches; while some opportunities are emerging, other solutions have yet to be conceived. The

strong leadership demonstrated in Ireland through the legislative ban on workplace smoking demonstrates that there is a capability to mobilise broad-based support for innovative approaches in tobacco control. Is it time now to re-engage the public, organisations and political leaderships to rebuild the community action necessary to move *Tobacco Free Ireland’s* bold vision into a tobacco endgame reality?

Next steps for the HSE

The HSE *Tobacco Free Ireland* Programme is taking forward lessons learned from this *State of Tobacco Control Report* through its Programme Plan 2018-2021 with a focus on identified key priorities:

- Provide and develop leadership across the health services to support the ambition of *Tobacco Free Ireland*.
- Leverage Hospital Group and Community Health Organisation *Healthy Ireland* implementation plans to translate HSE *Tobacco Free Ireland* Programme objectives into day-to-day business in Health and Social Services for local populations.
- Build and ensure compliance with tobacco control legislation, ensuring requisite capacity is in place to deliver the benefits of the Tobacco Products Directive and identifying opportunities to maximise the impact of its regulatory role, giving priority to protecting children and de-normalising tobacco as a retail product.
- Continue to use public communication to warn the public about the harm caused by tobacco and provide support to quit, responding to and maximising impact from the changing media landscape, as well as identifying innovative ways to respond to and engage with the needs of different population groups.
- Strengthen and scale up smoking cessation services through ensuring health professionals engage appropriately with people who smoke through “*Making Every Contact Count*,” developing and implementing national clinical guidelines, and supporting referral and service delivery with a new electronic patient management system. In addition, consider how we can better promote smoking cessation services, remove barriers to access, and extend their reach through, for example, nurse prescribing.
- Consider how the HSE *Tobacco Free Ireland* Programme Plan can maximise the impact across the population with particular reference to health inequalities, people

with mental health problems and women who are pregnant.

- Invest in and develop the use of research, monitoring and evaluation to support the HSE *Tobacco Free Ireland* Programme Plan including:
 - › Tracking of key metrics against the programme logic model to relate inputs (including costs) and activities to outputs and outcomes, using the indicators set out in this *State of Tobacco Control Report* as a starting point, and paying attention to impact at whole-population level as well as at the level of specific population groups.
 - › Exploit the potential of populated-based health surveys through secondary analysis to better understand progress and priorities for tackling smoking.
 - › Seek to invest in, promote and support a programme of research which specifically addresses knowledge gaps for delivery of *Tobacco Free Ireland* including the need to better understand:
 - » later initiation of smoking past childhood and adolescence, identifying opportunities to intervene
 - » occasional smoking and use of roll-your-own tobacco products, identifying opportunities to intervene
 - » the changing media environment, how it is shaping the tobacco epidemic and new opportunities to leverage it to tackle smoking
 - » how to maximise demand for and impact of smoking cessation support
 - » how to ensure that initiatives to prevent initiation and support smoking cessation benefit all population groups, ideally with most impact for those with greatest needs
 - » tobacco endgame opportunities for Ireland and how best to engage the public, organisations and political leadership in action to realise these.

With our Tobacco Free Ireland partners

- Consider how best to continue to coordinate activity and strengthen collaboration so that, together, we build a deeper understanding of the tobacco epidemic in Ireland, identify new opportunities and innovative solutions, and strengthen our collective impact.
- Extend our network of partnerships, engage new organisations in the discussion about the impact of smoking and we can work better together to end tobacco use.

With the Department of Health and government

- Consider how best to provide a continuing focus on and strong leadership, including the relevance of this *State of Tobacco Control Report* to the roles of the Cabinet Committee on Health and the Oireachtas Committee on Health and the on-going review and implementation of *Tobacco Free Ireland*.
- Consider the role for more specific and incremental targets to track progress towards a *Tobacco Free Ireland* and provide feedback for implementation planning and prioritisation of resources.
- Consider how to maximise the value of the *Healthy Ireland* surveys, ensuring sufficient depth, breadth and periodicity in survey design, and facilitating access for secondary analysis and research.
- Continue to maximise the impact of taxation and pricing on the demand for tobacco products in line with WHO recommendations.
- Consider opportunities to remove barriers to access and maximise demand for smoking cessation services in the context of policy on chronic disease management.
- Continue to leverage international relationships to share good practice and learn how best to approach the tobacco endgame.
- Explore opportunities to design and fund a *Tobacco Free Ireland* research programme for tobacco endgame innovation.
- Continue to horizon scan to understand and determine policy on the role of e-cigarettes and other new technologies and opportunities for the tobacco endgame in Ireland.

Key Indicators for the HSE Tobacco Free Ireland Programme

Population prevalence and rate of decline	
Smoking prevalence adults, aged 15 years and older, all	22%
Current absolute annual rate of decline in smoking, 3 year moving average	0.5% p.a.
Absolute smoking prevalence reduction to be a <i>Tobacco Free Ireland</i>	17%
Population groups	
Smoking prevalence, aged 15 years and older, males	24%
Smoking prevalence, aged 15 years and older, females	21%
Smoking prevalence adults, aged 25-34 years	32%
Smoking prevalence, aged 15 years and older, SEG A	16%
Smoking prevalence, aged 15 years and older, SEG G	33%
Ever smoking prevalence children, aged 10-17 years	16%
Current smoking prevalence children, aged 10-17 years	8%
Use of e-cigarettes current smokers	6%
Use of e-cigarettes ex- smokers	6%
Use of e-cigarettes never smokers	0%
Health impact	
Number of deaths attributable to smoking and second-hand smoke	5,899
Number of hospital cases attributable to smoking and second-hand smoke	55,001
Building and enforcing legislative compliance	
Number of registered tobacco retail outlets	20,885
Number of tobacco legislation compliance complaints handled	162
Number of tobacco legislation inspections conducted (compliance %)	15,054/80%
Number of minor tobacco test purchases conducted (compliance %)	429 (90%)
Convictions under Public Health (Tobacco) Act 2002	17
Quitting and support	
Prevalence in making a quit attempt in last 12 months	53%
Proportion of unsupported quit attempts	47%
Number of QUIT website sessions per 1,000 people who smoke	300
Number of online QUIT Plan sign-ups per 1,000 people who smoke	30
Number entered in intensive smoking cessation support per 1,000 people who smoke	14
Number receiving medication support per 1,000 people who smoke (medical card only)	105
% Entering intensive smoking cessation support who are quit at 1 month	50%

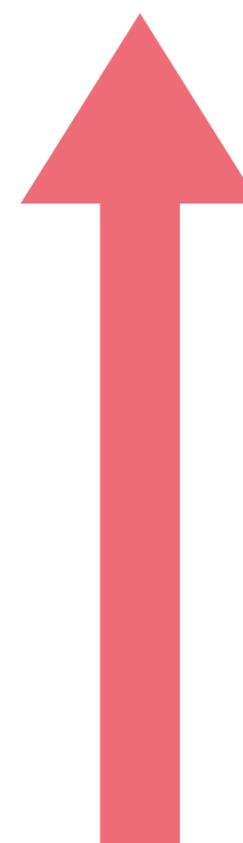
Note: All indicators 2017 data, or nearest available year

1. Introduction

1.1 Tackling the tobacco epidemic in Ireland

Ireland has a strong track record in tobacco control. Progress has been made in tackling harm caused by smoking through a comprehensive range of efforts. Figure 1 summarises key developments across pricing, legislation, public education & warnings, and treatment services. Ireland's ranking in tobacco control continues to be high compared to other European countries.¹

Figure 1: Key milestones in tobacco control in Ireland, 1988 to 2018



- 2017: Standardised (Plain) Packaging of Tobacco
- 2014: EU Tobacco Products Directive
- 2013: Launch of Tobacco Free Ireland
- 2011: Graphic warnings on packaging
- 2010: HSE Tobacco Control Framework (5 year Plan)
- 2010: Towards a Tobacco Free Society (Government Strategy)
- 2009: Restrictions on sale (number and mode of sale) removal of point-of-sale tobacco displays
- 2005: WHO Framework Convention on Tobacco Control ratified
- 2004: Workplace Smoking Ban
- 2002: Office of Tobacco Control established Prohibition on advertising & sponsorship
- 2000: Towards a Tobacco Free Society
- 1999: Joint Committee on Health & Children: A National Anti-Smoking Strategy
- 1991: Certain regulations on tobacco advertising
- 1988: Smoking banned in public buildings

Tobacco Free Ireland is the second and current government policy dedicated to tobacco control and follows historical health policies and strategies which have sought to respond to the impact of smoking on the public's health in Ireland.² It heralded a step-change in approach by signalling political commitment to bring tobacco control in Ireland to the "endgame," the final stage of the process of ending tobacco use.³ The actions in *Tobacco Free Ireland* include evidence-based measures recommended by the World Health Organization through its MPOWER model (Figure 2).⁴ A specific focus is placed on the protection of children, the de-normalisation of tobacco use and the building and maintaining of compliance with tobacco control legislation. *Tobacco Free Ireland* is a key component of government's current policy framework for public health, *Healthy Ireland*.⁵

1 Joossens L, Raw M. Tobacco control scale in Europe 2016 – A report of the Association of European Cancer Leagues. www.tobaccocontrolscale.org. 2017.

2 Tobacco Free Ireland – Report of the Tobacco Policy Review Group. Department of Health, Dublin, 2013.

3 Thomson G, Edwards R, Wilson N, et al. What are the elements of the tobacco endgame? *Tobacco Control* 2012;21:293-295

4 World Health Organization. WHO Report on the Global Tobacco Epidemic, 2008 – The MPOWER Package. Geneva, World Health Organization, 2008.

5 Department of Health. *Healthy Ireland: A Framework for Improved Health and Wellbeing 2013-2025*.

Figure 2: World Health Organization's MPOWER

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

Source: World Health Organization

In the context of an increasingly globalised tobacco epidemic, coordinated international action is required. The World Health Organization Framework Convention on Tobacco Control (WHO FCTC) is a legally binding international treaty ratified by Ireland in 2005, which aims to ensure national governments put in place consistent, coordinated and effective measures to protect the public's health.⁶ In addition, as a member of the European Union, a revised Tobacco Product's Directive recently came into effect in Ireland with new rules governing the manufacture, presentation and sale of tobacco and related products.⁷

1.2 Role of the HSE in achieving a Tobacco Free Ireland

The Department of Health provides leadership for the implementation of *Tobacco Free Ireland*, and plays a specific role in relation to drafting legislation, coordinating the role of government departments and agencies, monitoring tobacco use and prevalence, working with the relevant parts of government to ensure robust and effective taxation policies are in place, and developing and leveraging national and international partnerships for tobacco control.⁸ Annual *Tobacco Free Ireland* action plans are put in place by the Department of Health and it publicly reports on progress.

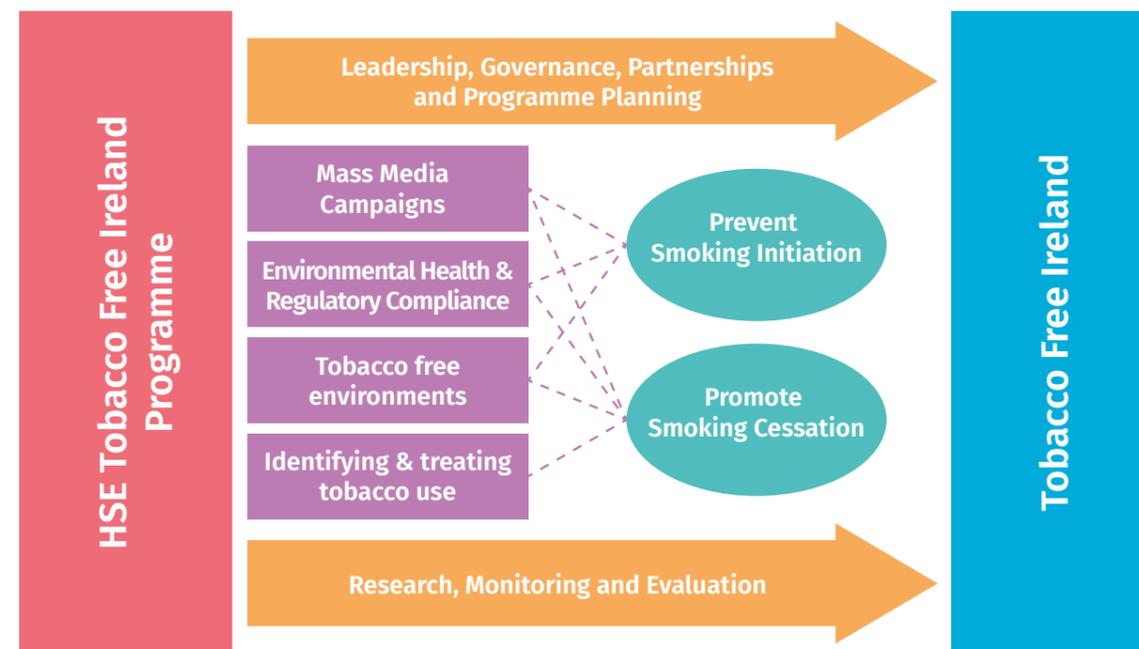
The Health Service Executive (HSE) is responsible for actions in the following areas:

- Warning about the dangers of tobacco products through developing and delivering mass media;
- Building compliance and enforcing tobacco control legislation to protect people from tobacco smoke and to regulate advertising and the retailing of tobacco products;
- De-normalising tobacco use through implementation of the HSE Tobacco Free Campus Policy;
- Helping people to quit using tobacco products through delivering cessation services.

⁶ World Health Organization. WHO Framework Convention on Tobacco Control. World Health Organization. 2003
⁷ European Commission. DIRECTIVE 2014/40/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 3 April 2014 on the approximation of the laws, regulations and administrative provisions of the Member States concerning the manufacture, presentation and sale of tobacco and related products and repealing Directive 2001/37/EC. Official Journal of the European Union. 2014.
⁸ Department of Health. Tobacco Free Action Plan. Department of Health, Dublin 2. Ireland. 2015.

These activities are governed through the HSE *Tobacco Free Ireland* Programme (Figure 3), which provides leadership, governance, programme planning and a focus for partnerships with other organisations for tobacco control; its role is underpinned by research, monitoring and evaluation. In turn, this is integrated with the HSE response to *Healthy Ireland* across a range of priority areas.⁹ A HSE *Tobacco Free Ireland* Programme Plan has been developed describing priorities and areas of action to 2021.¹⁰

Figure 3: The HSE Tobacco Free Ireland Programme Model



1.3 Aim and objectives of this report

The overall aim of this report is to better inform the HSE *Tobacco Free Ireland* Programme Planning 2018-2021, through describing the current state of tobacco control in Ireland in order to understand where progress has been made and to identify challenges where focus is now required.

The objectives were to:

- assess health needs through describing the trends in use of tobacco products and comparing those trends across population groups;
- quantify the impact of tobacco use on health and wellbeing in Ireland;
- describe trends in HSE tobacco control activities, including reach and impact;
- propose key metrics and recommendations for the HSE Tobacco Free Programme Planning 2018-2021.

⁹ Health Service Executive. *Healthy Ireland in the Health Services: National Implementation Plan 2015 – 2017*. Dublin, 2015.
¹⁰ Health Service Executive. *HSE Tobacco Free Ireland Programme Implementation Plan 2018 – 2021*. Dublin, 2018.

2. Tobacco use – prevalence and trends

1.4 Methods

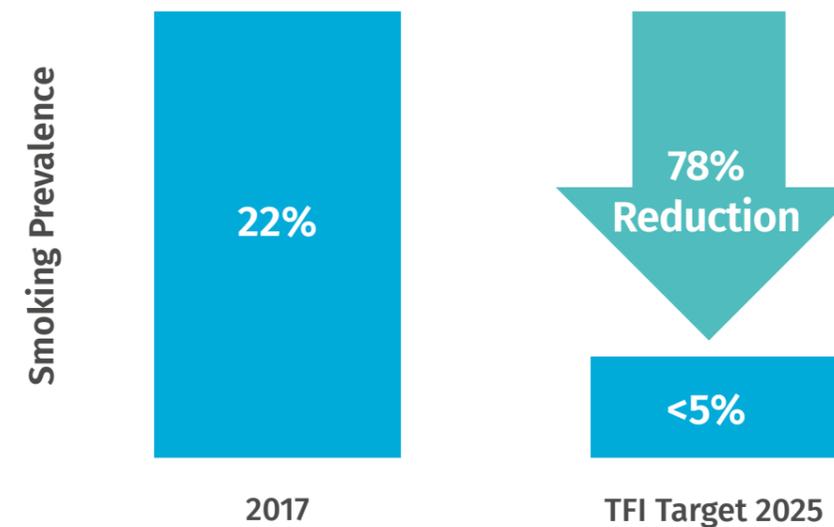
The following key tobacco related datasets were identified and analysed to meet the objectives of this report.

Trends in use of tobacco products presents information on prevalence and trends in smoking by adults and children in Ireland, from the following main sources:			
Dataset	Years	How was data collected?	Source
Healthy Ireland Survey	2015 research microfile (rmf) 2017	Definitive source of population-based information on smoking prevalence. Interviewer-administered survey. Face-to-face interviews with over 6,000 persons aged 15+ years.	Department of Health, Dublin 2.
HSE Tracker Surveys	2005 to 2017	Supplementary source of population-based information on smoking prevalence and types of tobacco products. Useful for tracking trends but small sample makes it less definitive than Healthy Ireland Survey. Monthly telephone survey of smoking prevalence among a nationally representative random sample of 1,000 people aged 15+ years.	HSE National Tobacco Control Office
Health Behaviour in School Children	2014	A school-based survey with data collected through self-completion questionnaires administered by teachers in the classroom among children aged 9-18 years.	Health Promotion Research Centre, NUI Galway.
Impact of tobacco use on health and wellbeing presents information on the health of people who smoke, and estimates the number of hospital admissions and deaths that are attributable to smoking and exposure to second-hand smoke.			
Dataset	Years	How was data collected?	Source
Healthy Ireland Survey	2015 Research microfile (rmf) 2016	Interviewer-administered survey. Face-to-face interviews with persons aged 15+ years.	Department of Health, Dublin 2.
HIPE	2011 – 2016	HIPE is the only source of morbidity statistics available nationally for acute hospital services in Ireland. All acute public hospitals participate in HIPE.	Healthcare Pricing Office, HSE
Vital Statistics – Deaths	2011-2015 (final) 2016 (provisional)	CSO collects information on mortality in Ireland, including date and place of death, cause of death, age at death and gender of the deceased.	Central Statistics Office
Trends in HSE tobacco control activities provide information on HSE tobacco control activities from a number of in-house sources of information. These include information from HSE Environmental Health Services, HSE Communications Unit, HSE quitline, HSE smoking cessation services and tobacco-free campuses.			
In addition, in May 2017, a cross-country enhanced data collection exercise was undertaken by the smoking cessation service to better describe the scale and complexity of smoking cessation services in Ireland. (See Annex 2 for details of analysis).			
See Annex 1 for all details of data sourcing and data analysis.			

2.1 Current prevalence of smoking

The Healthy Ireland (HI) Survey is the definitive source of information on adult smoking in Ireland, and is used for national and international reporting.¹¹ The most recent Healthy Ireland Survey (2017) reported that 22% of people aged 15 years and older were people who currently smoke; 18% smoked daily and 4% smoked occasionally (Figure 4). *Tobacco Free Ireland* sets a target that less than 5% of the population will smoke by 2025. Based on current prevalence, a reduction of more than 17 percentage points (78% reduction relative to current prevalence) in the prevalence of smoking will be required to meet this target.

Figure 4: Prevalence of smoking in Ireland, 2017 and comparison with TFI target



2.2 Trends in prevalence over time

Figure 5 presents the trend in prevalence of smoking measured by the Healthy Ireland surveys since 2015. Overall, the proportion of people aged 15 years and older who reported they current smoke reduced from 23% in 2015 to 22% in 2017 (0.5 percentage point absolute reduction per year). Assuming current trend continues, and all other factors remain constant, Ireland can expect to be tobacco free (population prevalence of tobacco use less than 5%) by 2052. An annual absolute reduction of over 2 percentage points per year at the whole-population level would be required, holding all other factors constant, to achieve the 2025 target of less than 5% smoking prevalence.

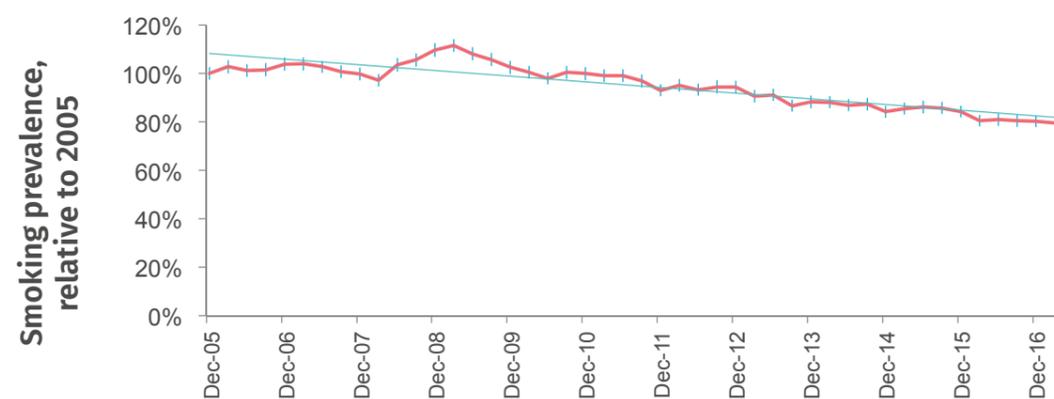
¹¹ Department of Health & IPSOS MRBI. Healthy Ireland Survey 2017 – Summary of Findings. www.healthyireland.ie

Figure 5: Trend in prevalence of smoking 2015 to 2017 and projected trend to 2052, with 2025 target



The HSE Tracker Survey has followed population prevalence of smoking since 2005; its smaller sample means it is a less definitive measure of smoking prevalence than the Healthy Ireland Survey, but it provides useful insights. As illustrated in Figure 6, compared with 2005, in 2017 the crude prevalence of smoking had decreased by 20.6%; a reduction of 1.9% per year relative to the previous year.

Figure 6: Trend in crude smoking prevalence to 2017, relative to 2005



Source: HSE Tracker Survey; 3-month moving average with 95% Confidence Intervals shown as error bars

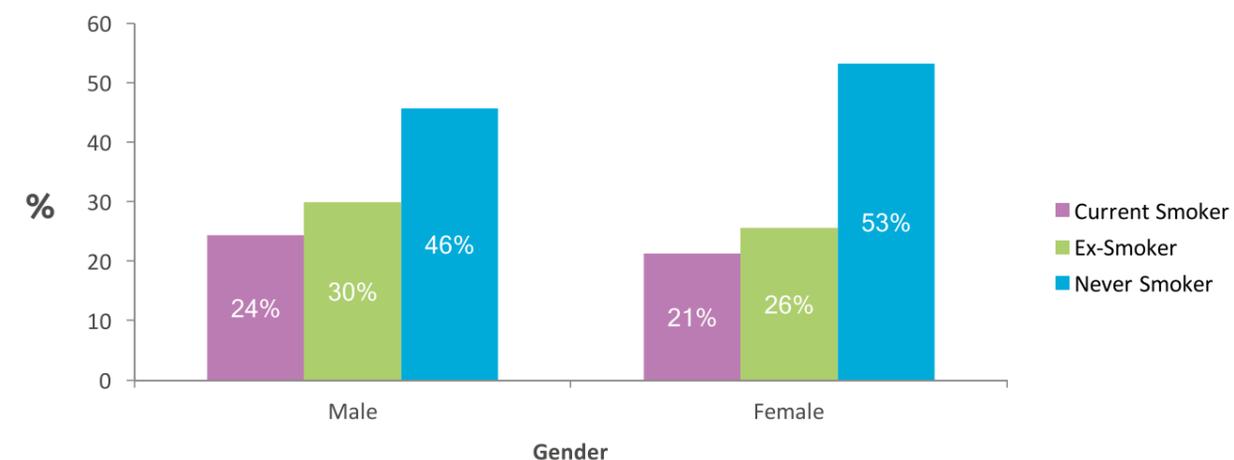
2.3 Different patterns of smoking

The Healthy Ireland Surveys point to important differences in the pattern of smoking across the population.

2.3.1 Gender

Smoking is more prevalent among men than women. In Ireland, over half (54%) of males aged 15 years and older have smoked at some time in their life, compared to 47% of females, ($\chi^2 = 42.7$, $p < 0.0001$; see Figure 7).

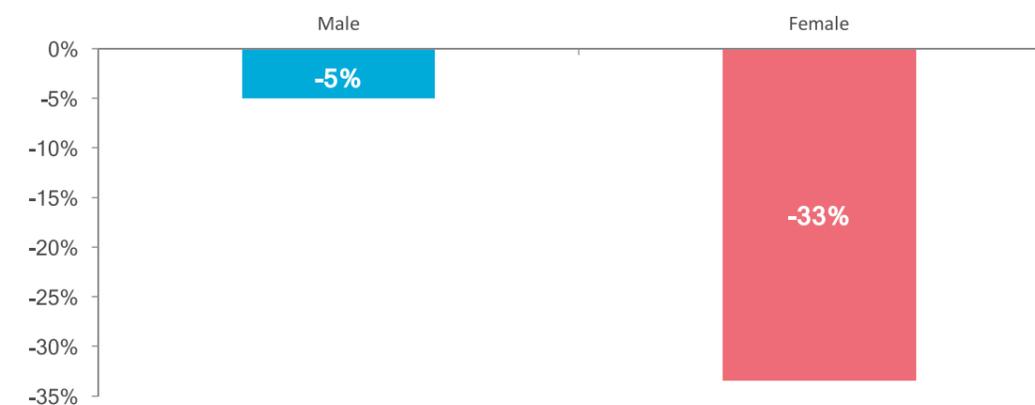
Figure 7: Prevalence of smoking, by gender, 2015



Source: HI 2015 rmf, secondary analysis

The trend in smoking over time is also different for men and women. Figure 8 presents data from the HSE Tracker Survey and shows that the decrease in crude prevalence of smoking in the period 2005 to 2017 has been greater for women than men (33.4% versus 5.0% respectively).

Figure 8: Changes in crude smoking prevalence as at 2017, relative to 2005, by gender

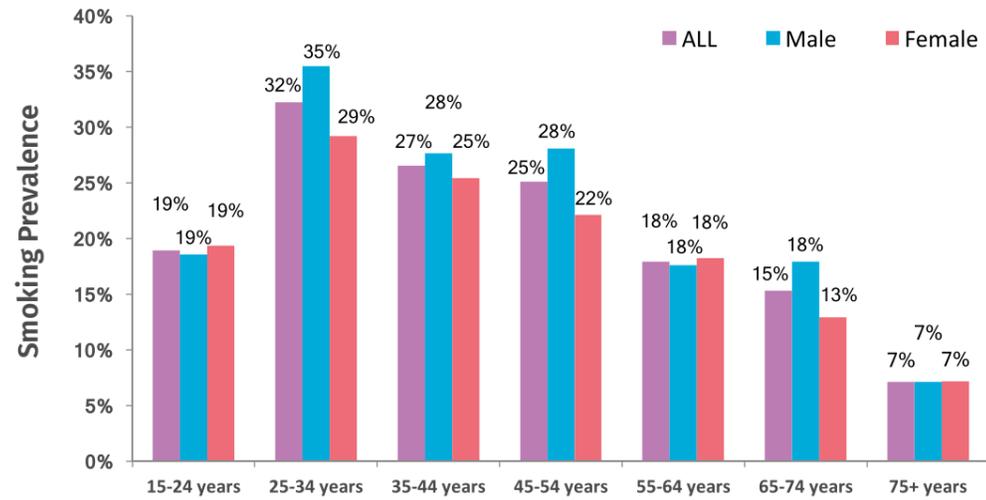


Source: HSE Tracker Survey.

2.3.2 Age groups

The average age of people who currently smoke in Ireland is 41 years. Smoking is most prevalent in the 25-34 year old age group and reduces with increasing age (Figure 9). Overall, while smoking is more common among males than females in most age groups, no difference exists between young males and young females aged 15-24 years (19%) and between older males and older females aged 75+ years (7%).

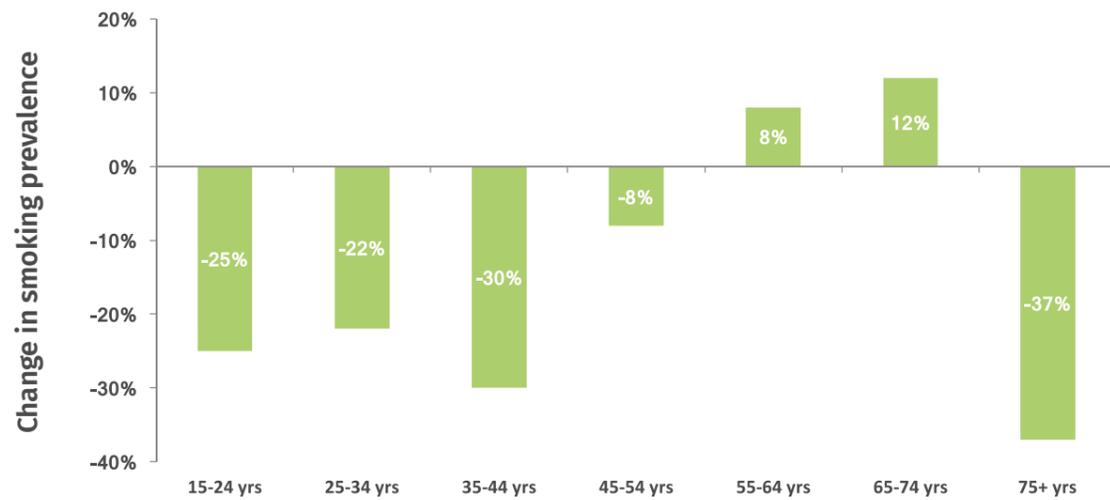
Figure 9: Prevalence of smoking, by age group and gender, 2015.



Source: HI 2015 rmf, secondary analysis

Figure 10 presents changes in smoking prevalence as at 2017 compared to 2005, by age group; there has been a decrease in prevalence in all age groups, except those aged 55-64 years and 65-74 years. Greater reductions were observed in younger age groups compared with older adults except those aged 75 years and older, who experienced the largest reduction in smoking prevalence. These age group specific changes may relate to trends in smoking initiation, smoking cessation and in smoking-related mortality over time.

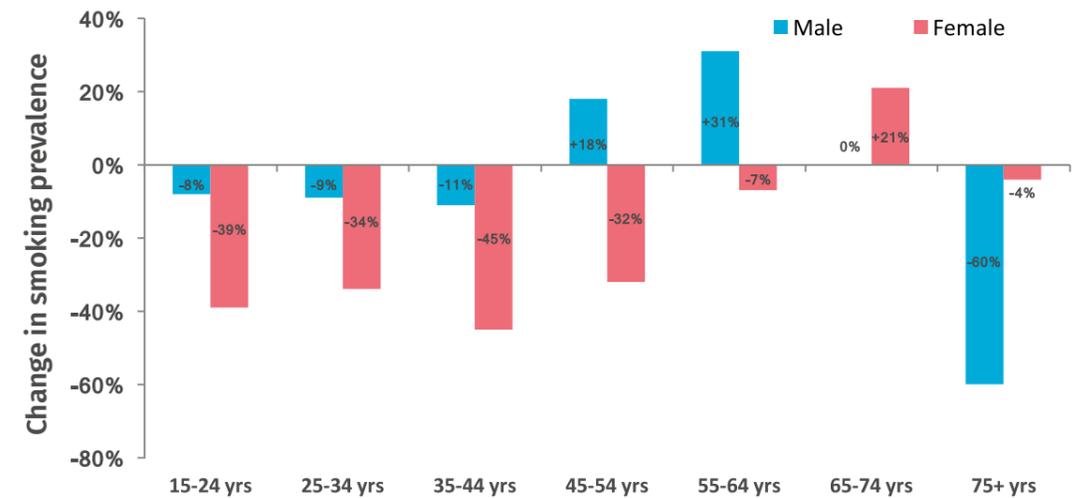
Figure 10: Changes in smoking prevalence as at 2017, relative to 2005, by age group



Source: HSE Tracker Survey.

Changes in crude smoking prevalence over time have been different for males and females. Figure 11 presents the changes in smoking prevalence by age group, stratified by gender. Among males, decreases in smoking have been observed in all age groups except those aged 45-64 years, where prevalence has increased; among females, decreases in prevalence have occurred in all age groups, with the exception of the 65-74 year olds. The reduction in smoking prevalence, among those aged less than 65 years, has been greater for females than males.

Figure 11: Changes in smoking prevalence as at 2017, relative to 2005, by age group stratified by gender

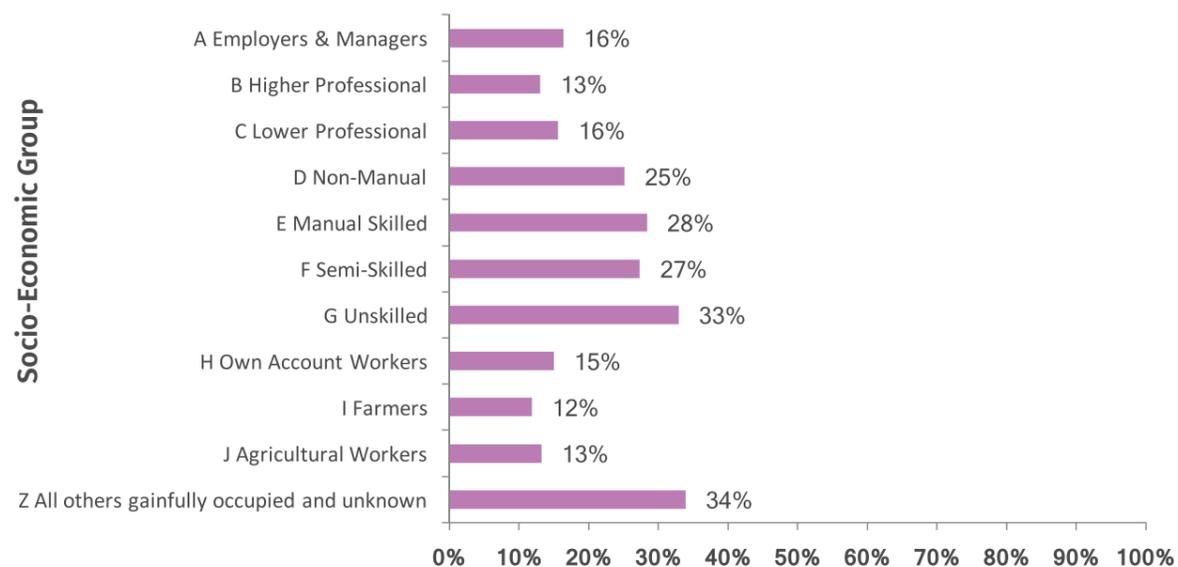


Source: HSE Tracker Survey.

2.3.3 Social Class

Healthy Ireland Survey data from 2015 confirms the well-established relationship between smoking prevalence and socio-economic grouping (Figure 12). A social gradient in smoking is clear, with smoking less common among those from professional and managerial groupings (Groups A-C, 13% to 16%) compared to those from more manual and unskilled groupings (Groups E-G, 27% to 33%).

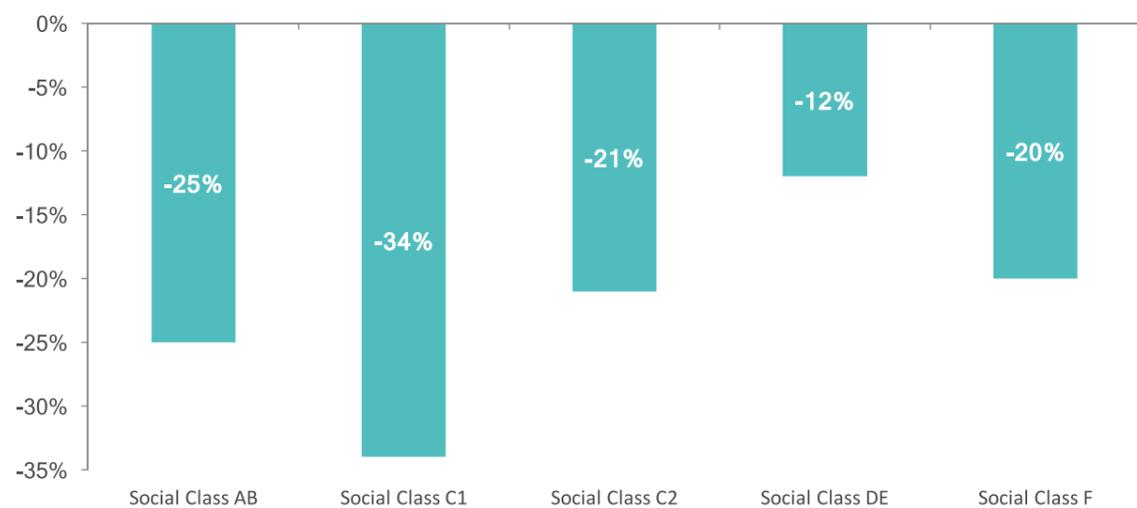
Figure 12: Prevalence of smoking, by socio-economic grouping, 2015



Source: HI 2015 rmf, secondary analysis

Figure 13 presents trends in crude smoking prevalence by social class, as measured by the HSE Tracker. In the period 2005 to 2017 decreases in smoking prevalence were observed across all social classes but a social class gradient is also clear; decreases were greatest among those from the higher social classes (AB=25% & C1=34%) compared with those from lower social classes (C2=21%, DE=12% & F=20%).

Figure 13: Changes in crude smoking prevalence as at 2017, relative to 2005, by social class



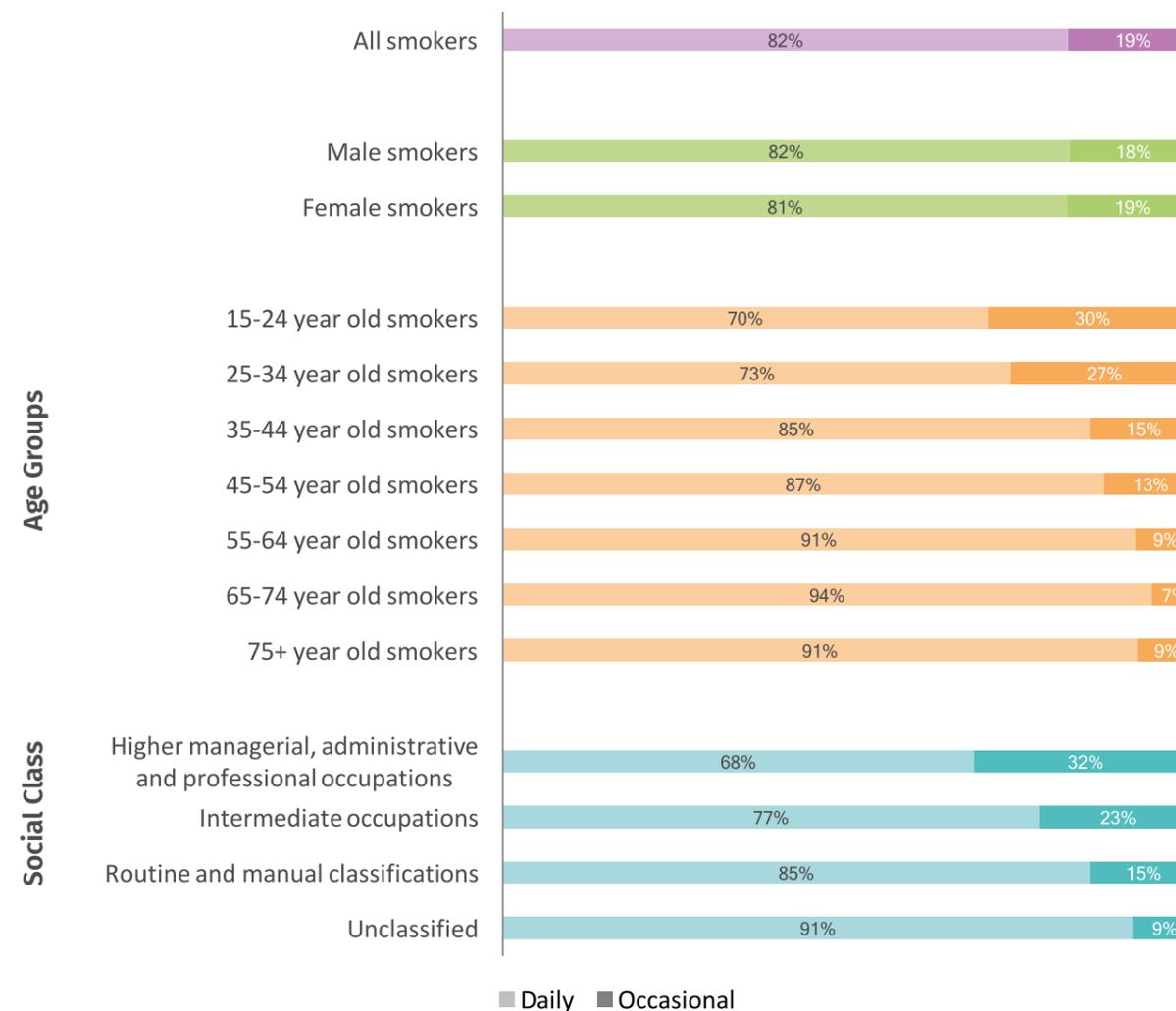
Source: HSE Tracker Survey.

2.3.4 Daily and occasional smoking

People who currently smoke may smoke daily or occasionally (less than daily). Overall, 19% of Irish adults aged 15 years and older smoke daily, and 4% smoke occasionally (18.5% of all smokers); 81% of people who smoke occasionally smoked at least once a week.

Figure 14 illustrates that the socio-demographic profile of people who smoke daily and occasionally are different. While any smoking behaviour is more prevalent among males than females, among those who smoke in either gender, occasional smoking is similarly prevalent. The average age of a person who smokes daily was 43 years, while the average age of a person who smokes occasionally was 35 years (t-ratio=-8.9, p <0.0001). The majority of people who smoke in all age-groups smoke daily, however, compared with older people who smoke, occasional smoking accounts for a significantly greater share of smoking behaviour among younger people who smoke ($\chi^2=71.8$, p<0.001); for example, among people who smoke aged 15-24 years and 25-34 years 30.1% and 26.7% respectively smoke occasionally. While the majority of people who smoke in all social classes smoke daily, compared with people who smoke in lower social classes, a higher proportion of people who smoke in higher managerial, administrative and professional occupations report occasional smoking (32.1%, $\chi^2=62.0$, p<0.0001).

Figure 14: Profile of people who smoke daily and occasionally, 2015



Source: HI 2015 rmf, secondary analysis

Table 1 presents the daily smoking versus occasional smoking (people who smoke at least once a week, see note) by product type. In general the breakdown between daily and occasional smoking is similar for all products except cigars where, compared with other products, a high proportion of people who smoke report smoking occasionally.

Table 1: Profile of tobacco products used by people who currently smoke (daily & occasional), 2015

Currently use the following:	Daily	Occasional	P value
Manufactured cigarettes	84%	16%	
Hand-rolled cigarettes	87%	13%	
Pipes full of tobacco	89%	11%	
Cigars	55%	45%	P<0.001

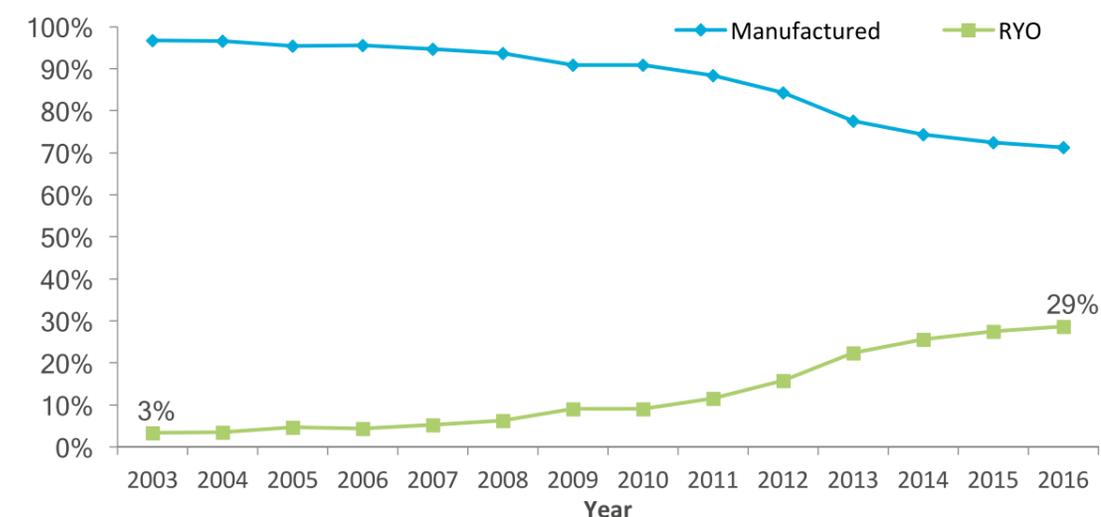
Source: HI 2015 rmf, secondary analysis

Note: 19% of people who smoke occasionally smoke less than weekly, and are excluded from this analysis.

2.3.5 “Roll-your-own” tobacco consumption

The growing trend of “roll-your-own” (RYO) tobacco use was highlighted in a recent special report by the HSE Tobacco Free Ireland Programme.¹² The crude proportion of people who smoke using RYO tobacco products has increased significantly from 3% in 2003 to 29% in 2016, a ten-fold increase, and, as illustrated in Figure 15, at the same time the proportion of people who smoke using manufactured cigarettes has decreased. While smoking prevalence has also decreased in the same period, this pattern suggests that some people who smoke are shifting from consumption of manufactured tobacco products to RYO. The HSE report concluded that RYO tobacco use was highest among those aged less than 25 years, male, and from lower socio-economic groups.

Figure 15: Recent trends in the crude proportion of people who smoke using RYO and manufactured cigarettes



Source: HSE Tracker Survey

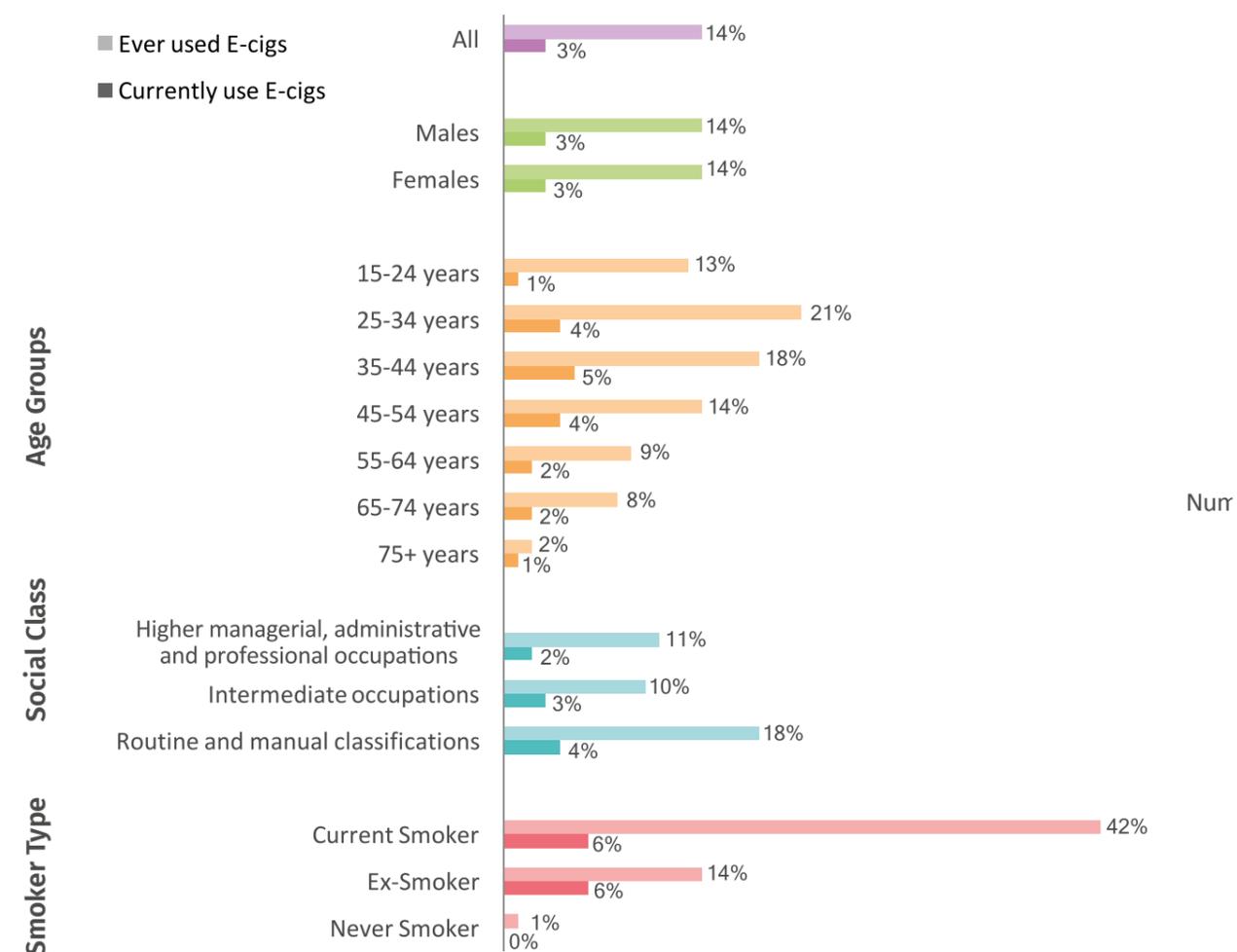
¹² Evans D, O’Farrell A, Hickey P. Roll Your Own Cigarettes in Ireland – Key Trends and Patterns. Health Service Executive. 2017. <http://hse.ie/eng/about/Who/TobaccoControl/Roll-Your-Own-Report-2017.pdf>

2.3.6 Knowledge & Use of Electronic Cigarettes

Electronic cigarettes are new nicotine products, the use of which is measured through the HI Surveys. This products differ from combustible tobacco products in affordability and appeal. Figure 16 presents the socio-demographic profile of people reporting ever and current use of e-cigarettes. While 14% of the population have tried an e-cigarette, 3% currently use them. While there are no gender differences in reported use of e-cigarettes, there are differences across age groups. Compared with older age groups, people in younger age groups more commonly report trying or using an e-cigarette ($\chi^2=175$, $p<0.0001$). A social class pattern is also evident: people in routine and manual occupations more commonly report ever trying an e-cigarette than people in higher managerial, administrative and professional classes (19% versus 11%, $\chi^2=80.0$, $p<0.0001$); a similar pattern is evident in relation to current use of e-cigarettes.

Trying or using an e-cigarette is rare among those who never smoked (1% and 0% respectively). Compared with ex-smokers, a high proportion of people who currently smoke report having tried an e-cigarette (14% versus 42%, $\chi^2=1628$, $p<0.001$). A similar proportion of current and ex-smokers report current e-cigarette use (6%).

Figure 16: Profile of ever and current use of e-cigarettes, 2015

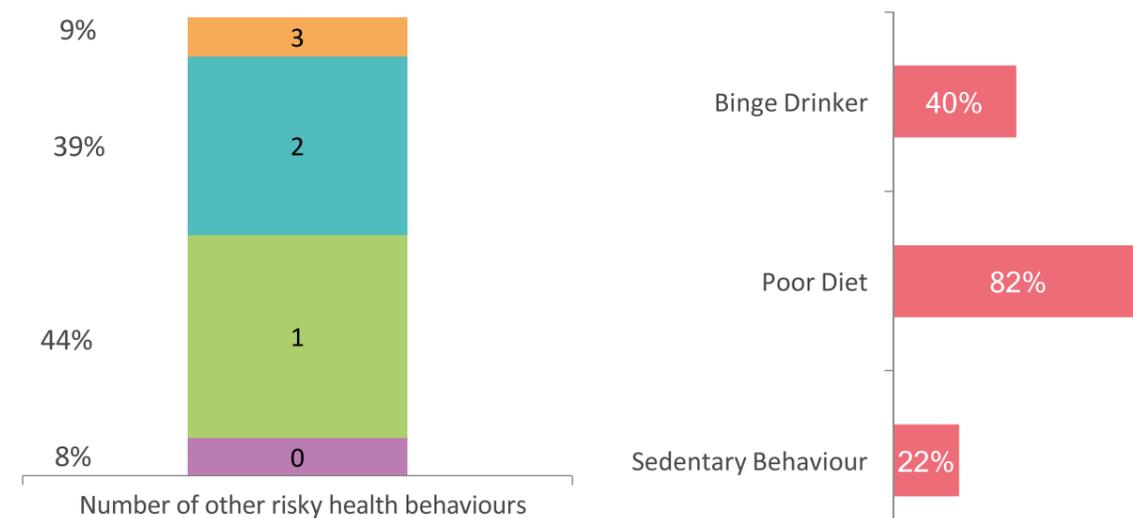


Source: HI 2015 rmf, secondary analysis

2.3.7 Smoking and other risky health behaviours

Smoking is significant risky health behaviour. However, as illustrated in Figure 17, the majority (92%) of people who smoke report at least one additional risky health behaviour (see note), with almost one-in-ten of them reporting three additional risky health behaviours. The most common additional risky behaviour was poor diet (82%), followed by binge-drinking (40%) and having a sedentary lifestyle (22%).

Figure 17: Prevalence and number of other risky health behaviours among people who smoke, 2015



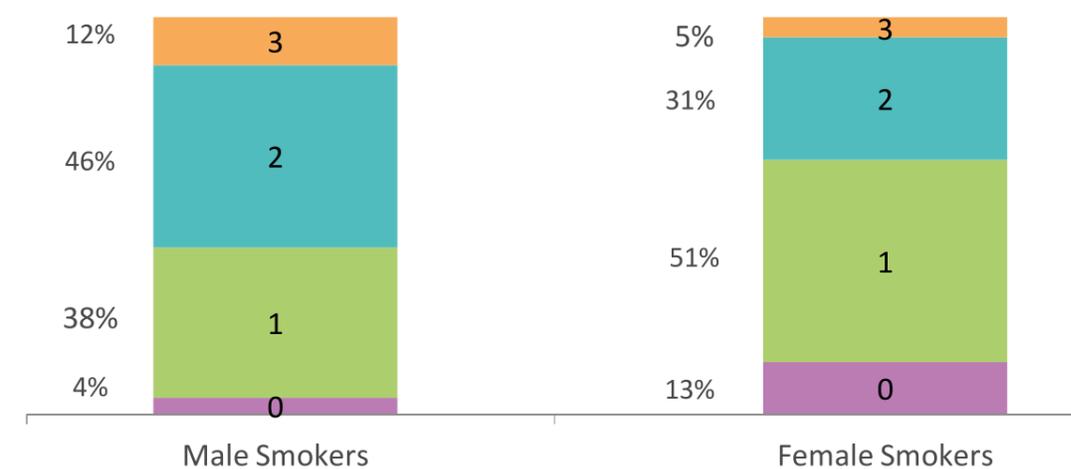
Source: HI 2015 rmf, secondary analysis

Note:

- Binge drinker – categorised as drinking 6 or more standard drinks on a typical drinking occasion
- Sedentary behaviour – categorised as spending 8 or more hours sitting per day during last 7 days
- Poor diet – categorised as consuming less than 5 portions of fruit & vegetables per day

More male than female people who smoke reported additional risky behaviours; 96% of males reported at least one of three additional risky behaviours, compared to 87% of females. Almost 60% of men who smoke reported two or more additional risky behaviours, compared to 36% of females; 12% of men who smoke reported engaging in all three additional risky behaviours compared to 5% of women who smoke, ($\chi^2=101.1$, $p<0.0001$).

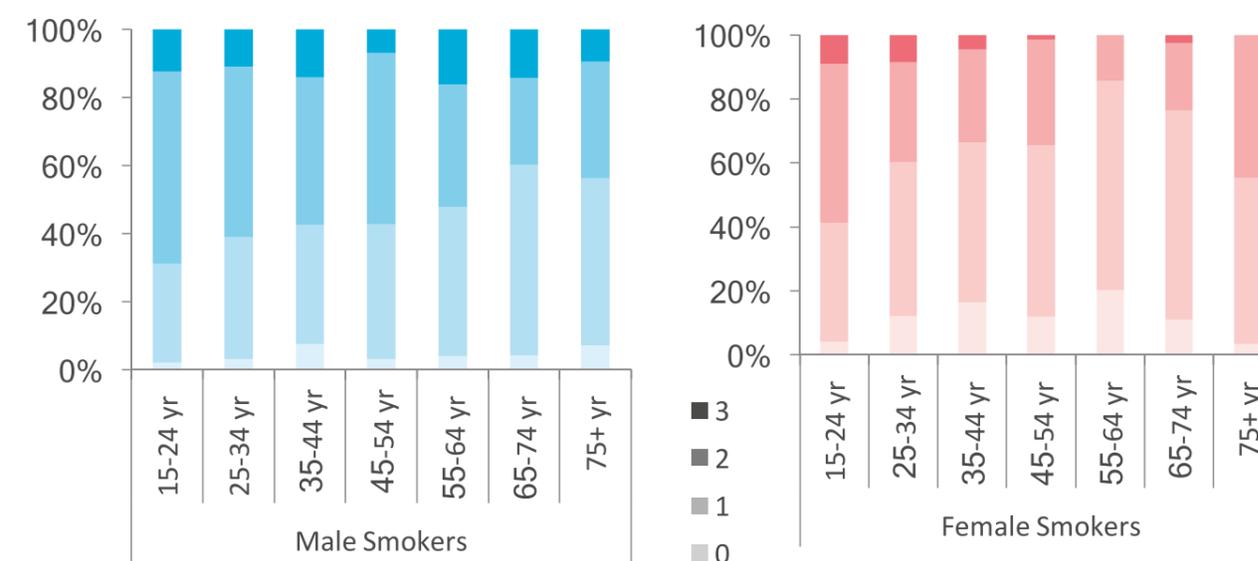
Figure 18: Prevalence and number of other risky health behaviours among people who smoke by gender, 2015



Source: HI 2015 rmf, secondary analysis

The proportion of people who smoke with additional unhealthy behaviours is greatest in those aged 15-24 years (97%); in addition 10% of them have all 3 additional risky behaviours. Figure 19 presents the age-gender differences across the population who smoke. Men who smoke across all age groups, with the exception of the very young (15-24 years) and the very old (75+ years), more commonly reported additional risky behaviours than women who smoke ($\chi^2=36.4$, $p<0.0001$). The proportion of those with two additional unhealthy behaviours in addition to smoking declines with increasing age across both genders, ($\chi^2=36.4$, $p<0.01$), but the decline is greater among females than males.

Figure 19: Prevalence and number of other risky health behaviours among people who smoke by age and gender, 2015



Source: HI 2015 rmf, secondary analysis

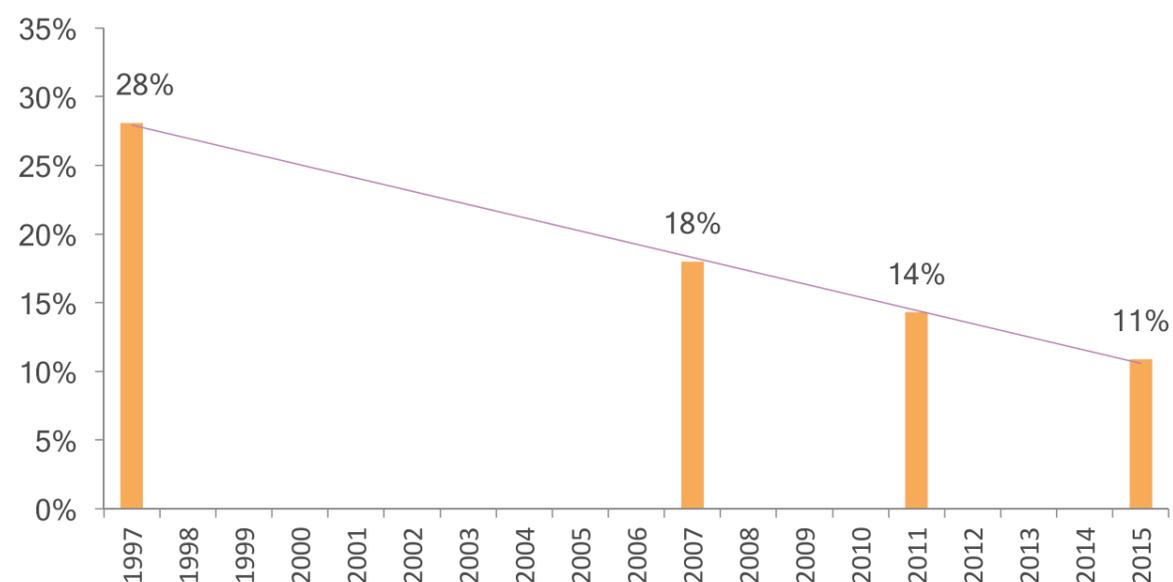
2.4 Tobacco use in special groups

2.4.1 Smoking and pregnancy

Smoking complicates pregnancy and leads to poor outcomes including impaired foetal growth and development, pre-term delivery, birth defects and sudden infant death. Children born to mothers who smoke have an increased likelihood of developing chronic disease in adult life.¹³ For these reasons, smoking in pregnancy merits special attention.

There is currently no national system which collects information on smoking in pregnancy in Ireland. However, the prevalence of maternal smoking and trends can be inferred through the Growing Up in Ireland and the Coombe Women and Infants Hospital studies. According to the Growing Up in Ireland Study, smoking in pregnancy has reduced from 28% of mothers of children born in 1997/1998 smoking to 18% for mothers of children born in 2007/2008; a 35.7% relative decrease in smoking rates in that decade.¹⁴ More recently, the Coombe Women and Infants Hospital reported that between 2011 and 2015 the prevalence of maternal smoking decreased from 14% to 11%, a 21.4% relative reduction ($P < 0.001$).¹⁵ These data are combined and the trend is illustrated in Figure 20.

Figure 20: Trends in the prevalence of smoking in pregnancy, 1997/8 to 2015



Sources: Growing up in Ireland, Reynolds et al.

Both studies confirm a social class patterning of smoking in pregnancy: mothers with lower educational attainment and lower income more commonly report smoking in pregnancy than mothers with higher

¹³ U.S. Department of Health and Human Services. The health consequences of smoking – 50 years of progress: a report of the Surgeon General. – Atlanta, GA. : U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014.

¹⁴ Layte R, McCrory C. Maternal Health Behaviours and Child Growth in Infancy. Growing Up in Ireland National Longitudinal Study on Children. The Stationery Office, Dublin. 2014.

¹⁵ Reynolds CME, Egan B, McKeating A, Daly N, Sheehan NR, Turner MJ. Five year Trends in maternal smoking behaviour reported at the first prenatal appointment. Irish Journal of Medical Science. 2017, 186 (4): 971-979. <https://www.ncbi.nlm.nih.gov/pubmed/28190202>

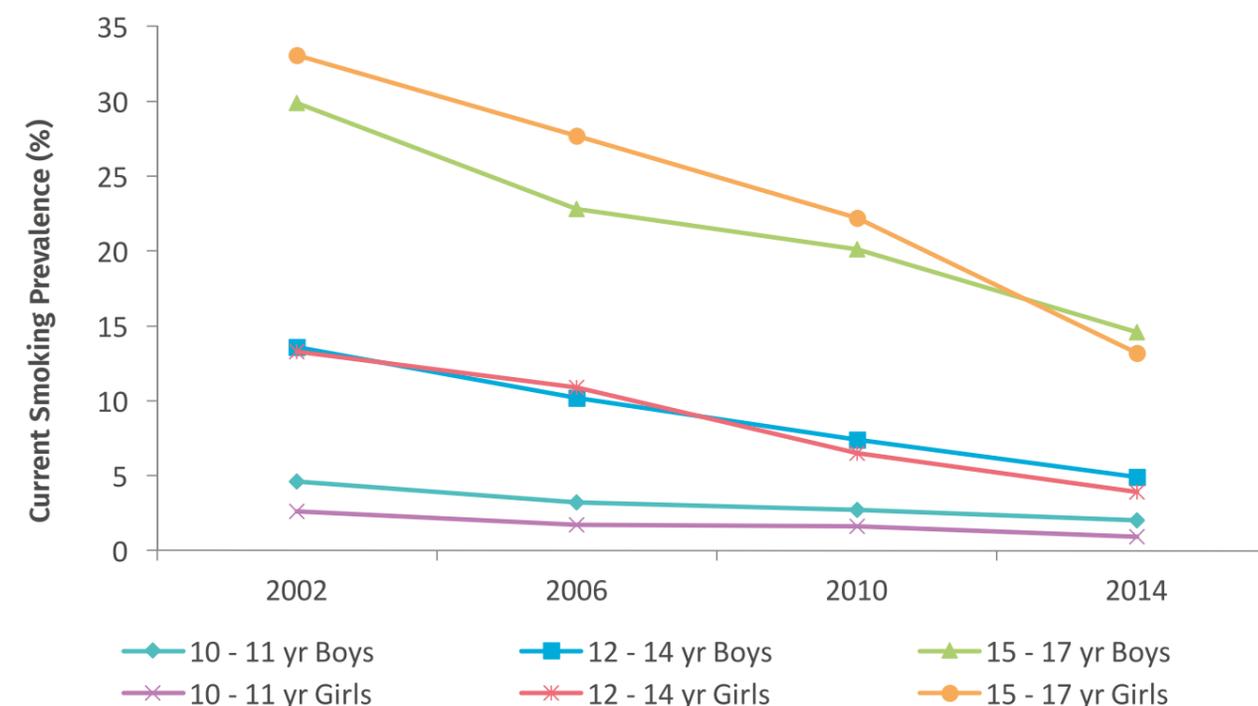
educational attainment and higher income. The Coombe Women and Infants Hospital also found that smoking during pregnancy is strongly associated with younger maternal age, multiparity, unplanned pregnancy, a history of psychiatric problems, alcohol intake and illicit drug usage.

2.4.2 Smoking and children

The Health Behaviour of School-aged Children (HBSC) Survey measures tobacco use in children, aged 10-17 years, as part of a World Health Organization Collaborative Cross-National Study.¹⁶ In 2014, the most recent survey, 16% of 10-17 year olds reported having ever smoked tobacco; this compares to 28% in 2010. In addition, 8% of children (8% boys, 7% girls) reported current smoking; this compares to 12% in 2010.

Between 1998 and 2014 there was a statistically significant decrease in the proportion of children who reported currently smoking (from 23% in 1998 to 8% in 2014, a 65.2% relative reduction). Between 2002 and 2014 there was a statistically significant decrease in the proportion of children who reported having smoked their first cigarette at age 13 or younger (61% in 2002; 35% in 2014, a 42.6% relative reduction), pointing to an increasing age of smoking initiation. Current prevalence and recent trend in current smoking among children is illustrated in Figure 21.

Figure 21: Trends in current smoking prevalence in children, 2002 to 2014



Sources: HBSC, Smoking behaviour among Irish schoolchildren, Research Factsheets, 2002, 2006, 2010, 2014

Reductions in smoking prevalence were observed for all age groups, but the greatest absolute reductions were observed among older children, who reported higher smoking prevalence at the start of the period of interest. The prevalence of ever and current smoking is similar for male and female children.¹⁶ Fewer children from higher social classes report ever smoking compared to those from other social classes; the prevalence of current smoking was similar across children from different social classes. This trend follows a similar pattern reported

¹⁶ Keane E, Gavin A, Perry C, Molcho M, Kelly C, Nic Gabhainn S. Trends in Health Behaviours, Health Outcomes and Contextual Factors between 1998-2014 : findings from the Irish Health Behaviour in School-aged Children Study. National University of Ireland, Galway. [http://www.nuigalway.ie/media/healthpromotionresearchcentre/hbscdocs/nationalreports/HBSC-Trends-Report-2017-\(web\).pdf](http://www.nuigalway.ie/media/healthpromotionresearchcentre/hbscdocs/nationalreports/HBSC-Trends-Report-2017-(web).pdf)

for Irish children aged 15 to 17 years participating in European School Survey Project on Alcohol and Other Drugs Ireland, for whom smoking prevalence declined from 41% in 1995 to 13% in 2015.¹⁷

2.4.3 Smoking and people with mental health problems

People with mental health problems are recognised as a high-prevalence smoking population, and tobacco use significantly compounds poor physical and mental health experience for this group;¹⁸ however, the relationship between mental health problems and smoking in Ireland is poorly described. Healthy Ireland 2015 measured mental health and wellbeing utilising the Mental Health Index-5 (MHI-5), which involved respondents indicating the extent to which they have experienced indicators of more negative aspects of mental health such as being “a very nervous person,” feeling “downhearted and blue,” “worn out,” “tired” and “so down in the dumps that nothing cheers you up.” Overall, approximately one-in-ten (9%) people reported psychological distress of an extent that indicated a probable mental health problem. The prevalence of smoking was greater among people reporting psychological distress. Table 2 indicates that 35% of people with probable mental health problems were currently smoking, compared to 22% of those with no mental health problems ($p < 0.0001$), a 1.6 fold difference.

Table 2: Prevalence of smoking status by probable mental health problems, 2015

Mental Health Problems	Current smoker	Ex-Smoker	Never Smoker
Probable mental health problem	35%	24%	41%
No mental health problems	22%	28%	50%

Source: HI 2015 rmf secondary analysis

2.5 Exposure to other people’s smoke

In the HI Survey 2017, 16% of the population in Ireland report that they are exposed to second-hand smoke from other people on a daily basis; 34% among people who smoke and 10% people who do not smoke. Exposure to second-hand smoke, among people who do not smoke, is highest among those aged 15-24 years (19%). Furthermore, people who do not smoke in more deprived areas are more likely to be exposed to second-hand smoke than those in more affluent areas.¹¹

Exposure to second-hand smoke from other people is also prevalent among children. In the HBSC Survey 2014, in total 12% of children reported that adults are allowed to smoke in their house, a further 5% reported that there are no rules or restrictions on smoking in their house; 15% of children reported that adults are allowed to smoke in the family car as long as the window is down, and a further 3% reported that there are no rules or restrictions on smoking in the car.¹⁹ The Growing Up in Ireland Survey identified that disadvantaged children were most likely to live in households with adults who smoked and were at greatest risk of exposure to second-hand smoke: 9-year olds living in the lowest income quintile families were twice as likely to be exposed to second-hand smoke in the home than children in the highest quintile income families: nearly one-in-three 9-year olds in the lowest income quintile were exposed to second-hand smoke in the home, according to their primary caregiver.²⁰

17 Li S, Keogan S, Taylor K, et al Decline of adolescent smoking in Ireland 1995–2015: trend analysis and associated factors *BMJ Open* 2018;8:e020708.

18 Royal College of Physicians, Royal College of Psychiatrists. Smoking and mental health. London: RCP, 2013.

19 Keane E, Gavin A, Perry C, Molcho M, Kelly C, Nic Gabhainn S. Trends in Health Behaviours, Health Outcomes and Contextual Factors between 1998-2014 : findings from the Irish Health Behaviour in School-aged Children Study. National University of Ireland, Galway. [http://www.nuigalway.ie/media/healthpromotionresearchcentre/hbscdocs/nationalreports/HBSC-Trends-Report-2017-\(web\).pdf](http://www.nuigalway.ie/media/healthpromotionresearchcentre/hbscdocs/nationalreports/HBSC-Trends-Report-2017-(web).pdf)

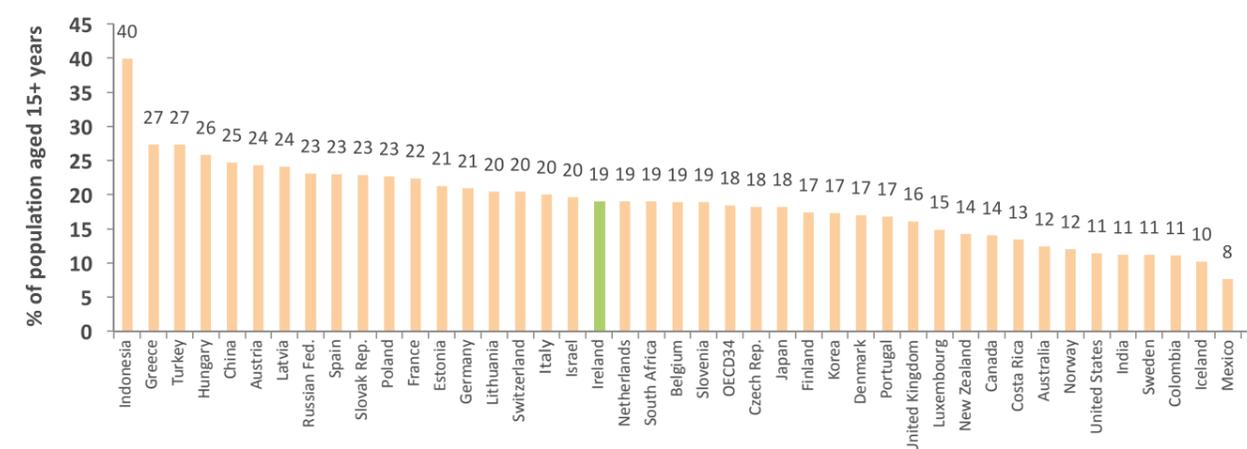
20 McAvoy H, Kabir Z, Reulbach U, McDaid O, Metcalfe O and Clancy L. (2013). A Tobacco-free Future – an all-island report on tobacco,

2.6 International comparisons

2.6.1 Smoking among adults, Ireland versus other countries

As illustrated in Figure 22, smoking prevalence among adults (aged 15 years and older, daily smoking only) in Ireland ranks mid-range across OECD countries; while there are countries where prevalence is higher than Ireland (e.g. Austria, 24%, France 22%), there are also countries with lower smoking prevalence (e.g. Denmark 17%, New Zealand 14%).²¹

Figure 22: Prevalence of daily smoking among adults, international comparisons, 2015 (or nearest year)

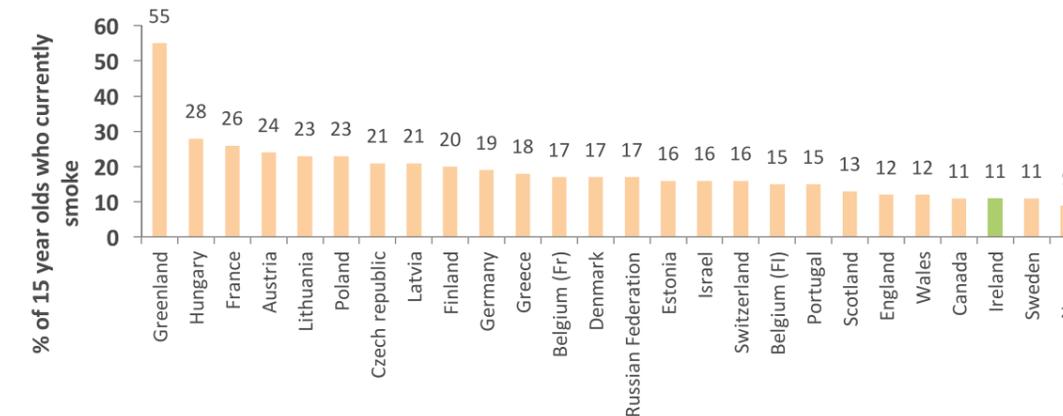


Source: OECD Health Statistics 2017

2.6.2 Smoking among children, Ireland versus other countries

In 2014, as illustrated in Figure 23, 15-year olds in Ireland report a lower prevalence of current smoking than the HBSC average (Ireland 11%; HBSC average 17%). Ireland’s relative position in relation to the prevalence of smoking among children has improved: it ranked 12th in 1998, 20th in 2002, 13th in 2006, 23rd in 2010 and 25th in 2014.¹⁶

Figure 23: Prevalence of smoking among children, international comparisons, 2014



Source: HBSC

inequalities and childhood, Dublin: Institute of Public Health in Ireland and Tobacco Free Research Institute Ireland.

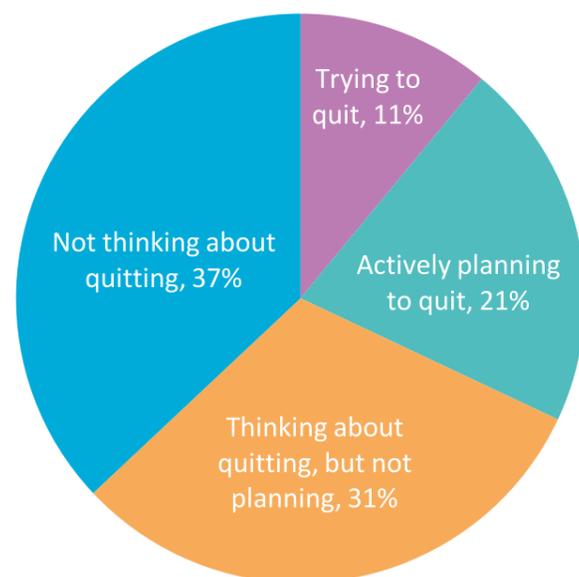
21 OECD (2017), “Smoking among adults”, in *Health at a Glance 2017: OECD Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/health_glance-2017-16-en.

2.7 Quitting intention and behaviour

2.7.1 Intention to quit

As shown in Figure 24, in 2015 almost three-in-five people who smoke are at least thinking about quitting; 13% are currently trying to quit, and a further 16% are actively planning to quit.

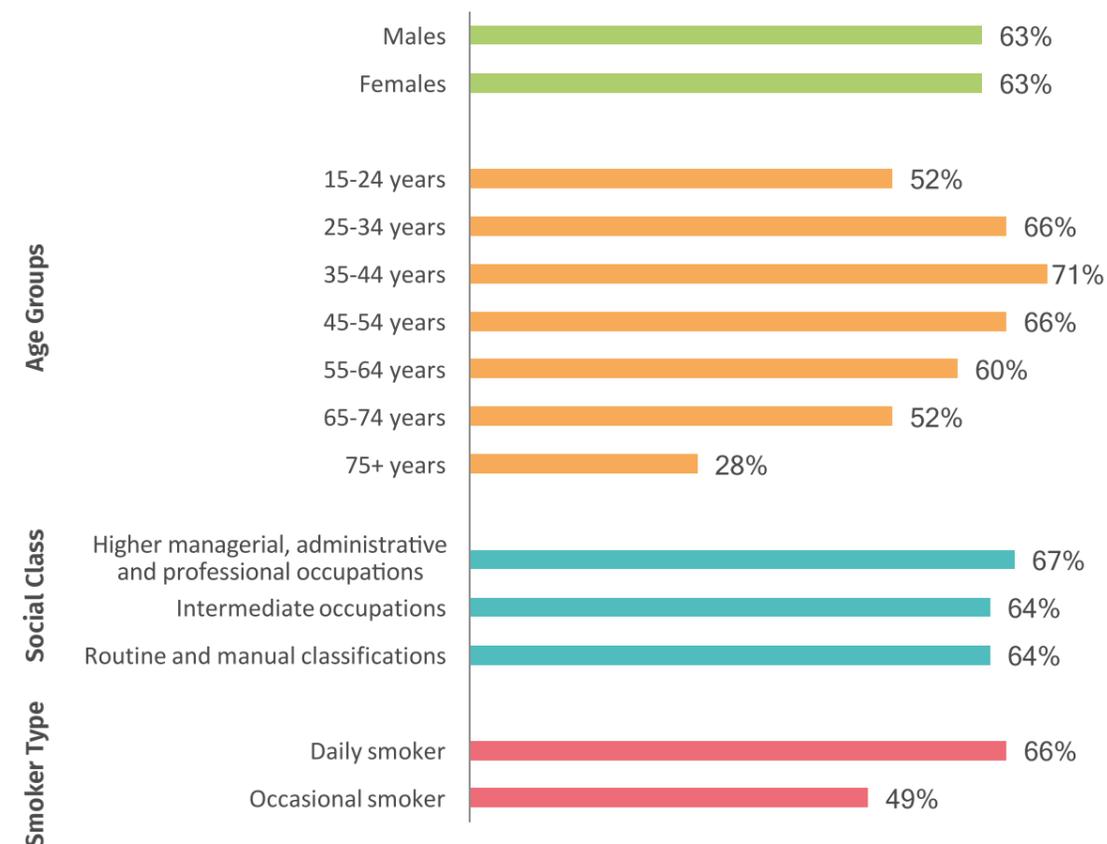
Figure 24: Profile of quitting intentionality among people who currently smoke, 2015



Source: Healthy Ireland Survey 2015, Department of Health

The profile of people who smoke with a positive intention to quit (those who are thinking about quitting, actively planning to quit and trying to quit) is illustrated in Figure 25: While a positive intention to quit was similar across men and women, there was a significant difference across age group: positive intention to quit became more common across increasing age groups, peaked in 35-44 year age group (71%), then it declined again ($\chi^2=48.0$, $p<0.0001$). A social class gradient was also observed: people who smoke in the higher managerial, administrative and professional class more commonly reported a positive intention to quit (67%) than people who smoke in lower social classes (64% for people who smoke in intermediate occupational and routine/manual occupational classes, $p=0.72$). A positive intention to quit was more common among people who smoke daily than people who occasionally smoke (66% versus 49% respectively, $\chi^2=30.9$, $p<0.0001$).

Figure 25: Profile of people who currently smoke with positive intention to quit, 2015

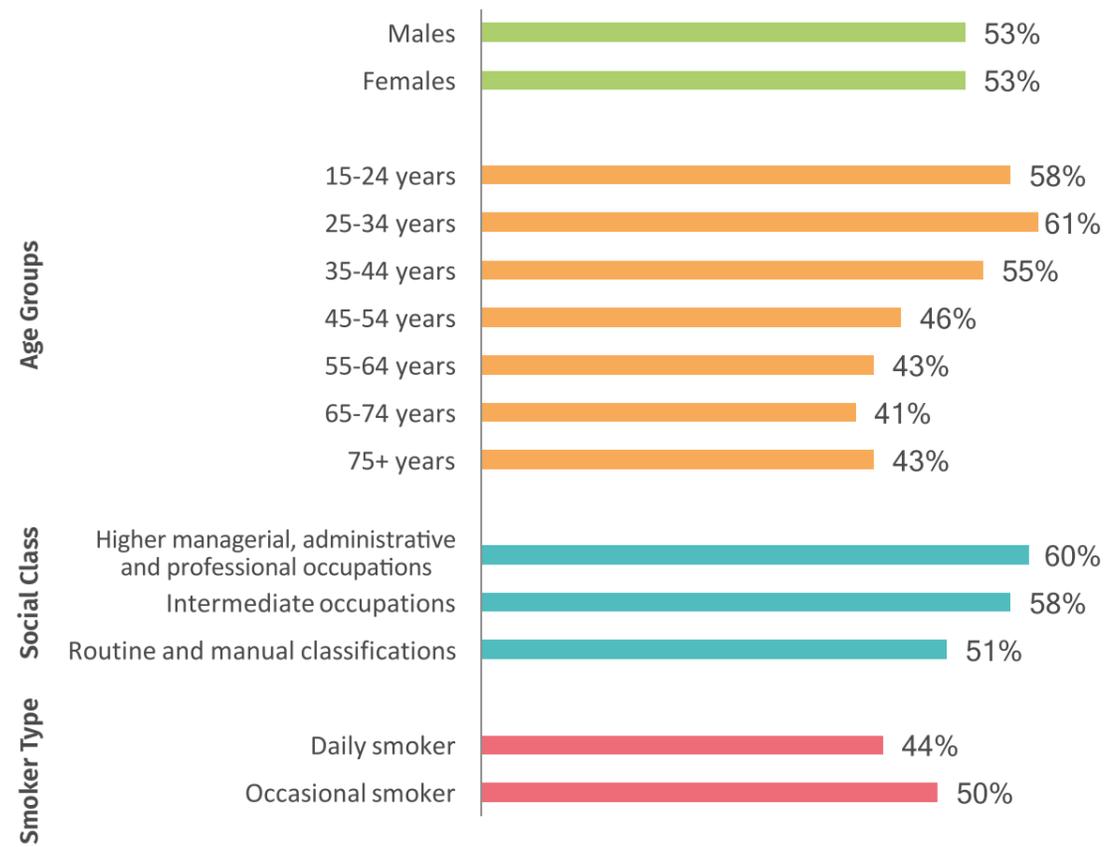


Source: HI 2015 rmf secondary analysis

2.7.2 Attempts to quit

Figure 26 profiles people who smoke (current and recent) who reported that they had made a quit attempt in the last 12 months. Making a quit attempt was similar among males and females; however, across age groups, making a quit attempt was more common among younger people ($\chi^2=40.3$, $p<0.0001$); for example, 61% of those aged 25-34 years had made a quit attempt compared with 43% of those aged 55-64 years. Social class is also an important factor: a higher proportion of those in higher managerial, administrative and professionals occupational groups and intermediate occupational groups reported making a quit attempt in the last 12 months than those in routine and manual occupational groups (60% and 58% versus 51% respectively ($\chi^2=10.9$, $p<0.01$)). Compared with people who smoke occasionally, a lower proportion of those who smoked daily reported making a quit attempt (50% versus 44%, $\chi^2=4.1$, $p<0.05$).

Figure 26: Profile of people who smoke (recent and current) who made an attempt to quit in the 12 months prior to survey, 2015

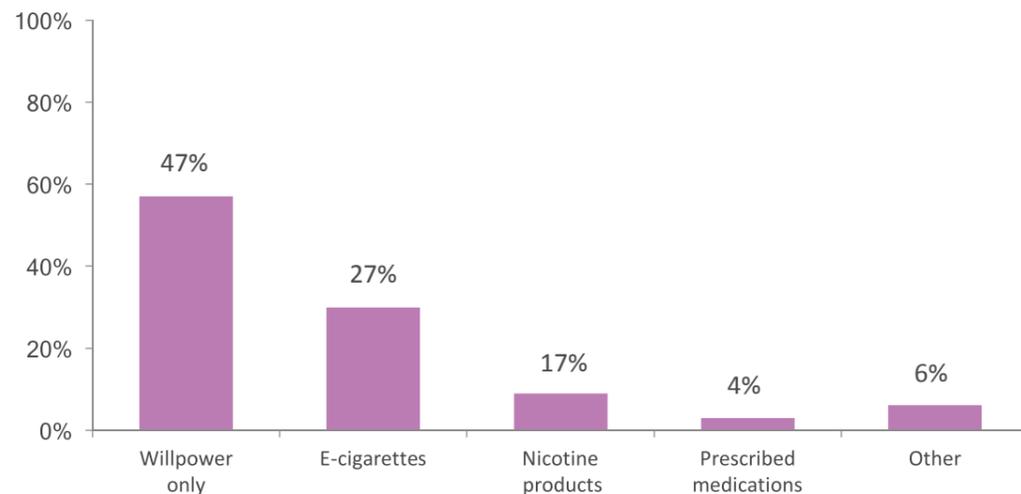


Source: HI 2015 rmf secondary analysis

2.7.3 Use of supports

Figure 27 presents the types of aids/supports used by people who smoke when they quit in 2015. The main aids/supports were willpower only and e-cigarettes.

Figure 27: Support use among successful quitters, 2015



Source: HI 2015 rmf secondary analysis

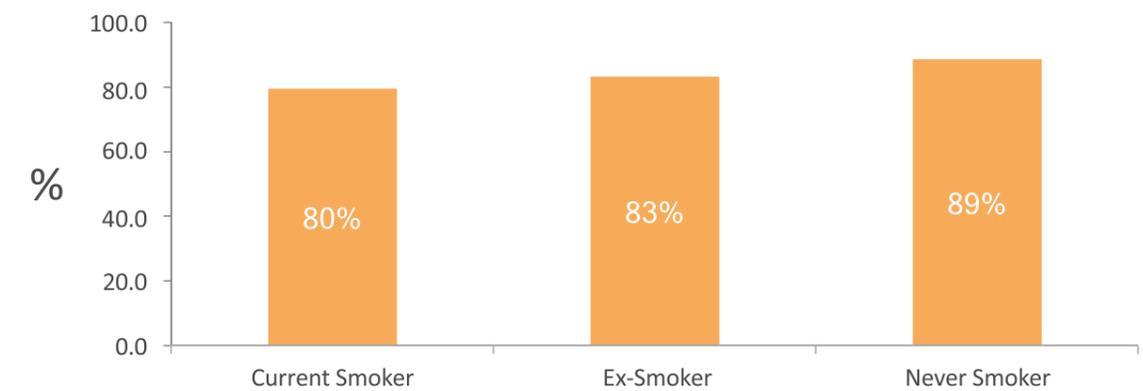
3. Tobacco use – impact on health

3.1 Health status

The HI Survey collects information on reported health status as well as tobacco product use and can be used to measure the impact of smoking on health.

Figure 28 presents the prevalence of positive self-rated health among adults by smoking status. Compared with people who report never smoking, self-rated health is poorer among people who formerly smoked or currently smoke (prevalence of positive self-reported health 89% versus 83% and 80% respectively ($\chi^2 = 99.9$, $p < 0.0001$). The Healthy Ireland Survey population is diverse and includes many younger people who smoke who have yet to accumulate the significant lifetime exposure necessary to significantly impact health. To account for age, gender and social class differences, further analysis was undertaken which identified that people who currently smoke were, independent of these factors, in fact, over 40% more likely to report poorer health, compared to people who do not smoke, independent of age, gender and social class, (odds ratio=1.43, 95%CI: 1.21, 1.68, $p < 0.0001$).

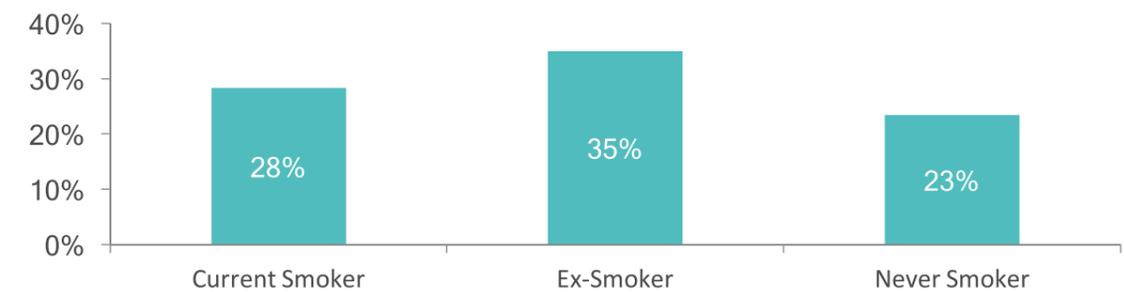
Figure 28: Prevalence of positive self-rated health among adults, by smoking status, 2015



Source: HI 2015 rmf secondary analysis

Furthermore, as shown in Figure 29 and Table 3, current or ex-smokers also report a higher prevalence of long-standing illnesses and, among those with a long-standing illness, report a higher burden of illnesses than people who have never smoked. After controlling for age, gender and social class, however, ex-smokers were significantly more likely than others to report limitations in their daily activities, having controlled for these variables (Odds ratio=1.45, 95%CI: 1.26, 1.66, $p < 0.0001$). This includes individuals who have stopped smoking because of the onset of chronic illness.

Figure 29: Prevalence of long-term illnesses, by smoking status, 2015



Source: HI 2015 rmf secondary analysis

Table 3: Number of conditions among those who had at least 1 condition (see list below*), by smoking status, 2015

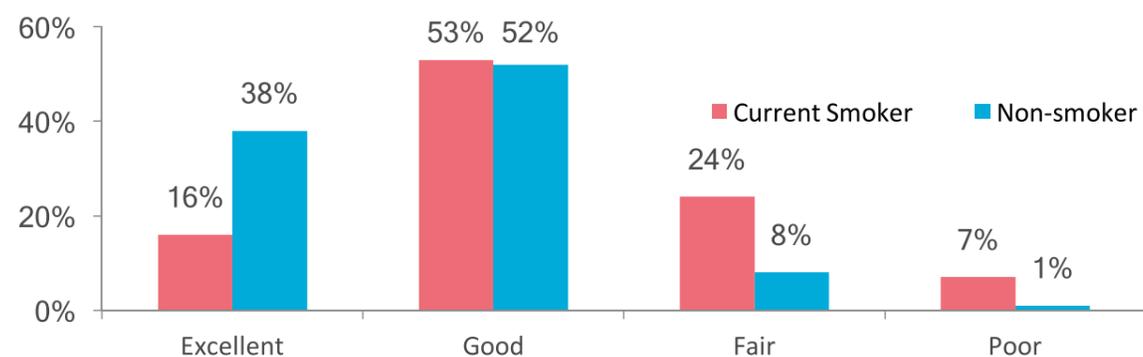
Smoking Group	Mean number conditions	Lower 95% CI	Upper 95% CI
Current Smoker	1.87	1.78	1.96
Ex-Smoker	1.82	1.74	1.90
Never Smoker	1.65	1.57	1.72

* 1. Asthma (allergic asthma included); 2. Chronic bronchitis, COPD, emphysema; 3. Heart attack or consequences of heart attack; 4. High blood pressure; 5. A stroke or the chronic consequences of stroke; 6. Arthritis (excluding arthritis); 7. Arthritis; 8. Lower back disorder or other chronic back defects; 9. Neck disorder or other chronic neck defects; 10. Diabetes; 11. Allergy such as rhinitis, hay fever, eye inflammation, dermatitis, food allergy or other (allergic asthma excluded); 12. Cirrhosis of the liver; 13. Urinary incontinence or problems in controlling the bladder; 14. Kidney problems; 15. Depression.

Source: HI 2015 rnf secondary analysis

Health Behaviour of School Children data is presented in Figure 30. Children who smoke report poorer self-rated health than children who do not smoke: while 31% of children who smoke report their health as fair or poor, 9% of children who do not smoke report their health as fair or poor ($p < 0.001$); controlling for age, gender and social class, children who smoked were 3.47 times more likely to have reported fair/poor health than non-smokers (OR = 3.47, 95% CI 2.86-4.20, $p < 0.0001$).²²

Figure 30: Self-reported health among children, by smoking status, 2014

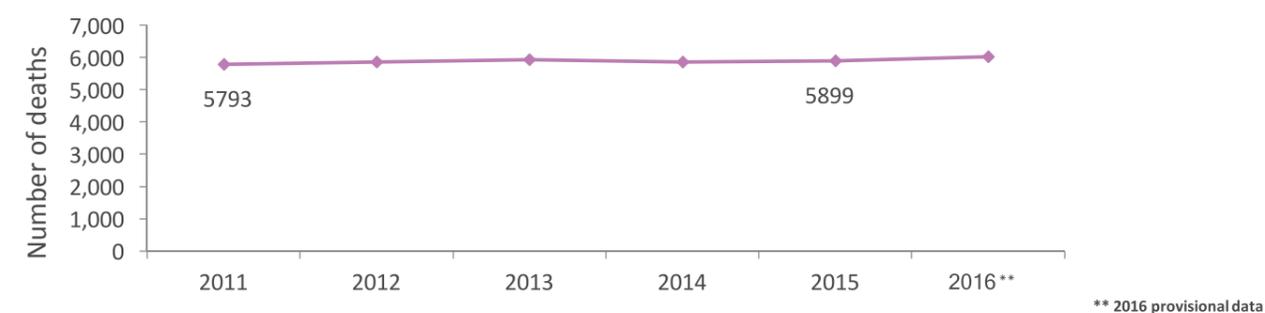


Source: The Irish Health Behaviour in School-aged Children (HBSC) Study 2014 – secondary analysis

3.2 Deaths due to smoking and exposure to second-hand smoke

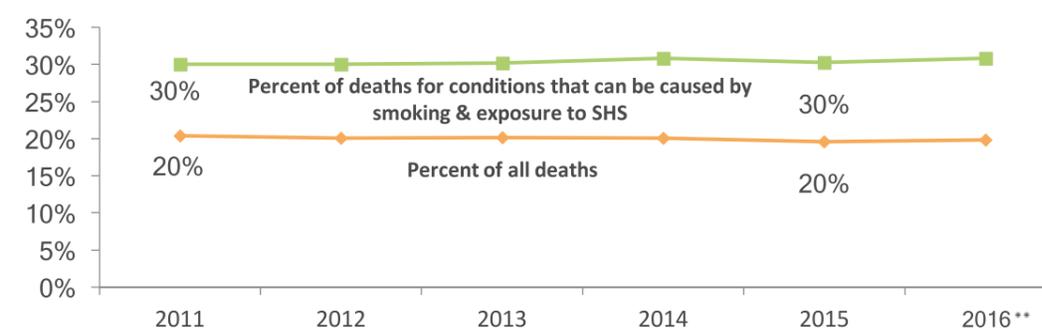
Through linking epidemiological information on the risk of mortality from smoking-attributable diseases with data on smoking in the population, deaths attributable to smoking in Ireland can be identified (additional information is available in Annex 2). In 2015, as shown in Figure 31, there were estimated to be approximately 5,900 deaths attributable to smoking and exposure to second-hand smoke (SHS); an increase of approximately 2% since 2011 (2016 data illustrated are provisional).

Figure 31: Trend in crude number of deaths estimated to be attributable to smoking and exposure to SHS, 2011 – 2016**



In 2015, as shown in Figure 32, 30% of deaths for conditions that can possibly be caused by smoking and exposure to SHS were estimated to be attributable to smoking and exposure to SHS; overall, it was estimated that 20% of all deaths were attributable to smoking and exposure to SHS. Trends in these crude proportions remained stable over the period.

Figure 32: Trends in crude proportion of deaths estimated to be attributable to smoking and exposure to SHS, 2011 – 2016**



Sources: Vital Statistics, CSO, HSE calculations

The overall burden of smoking attributable deaths is greater among men than women. As illustrated in Table 4, of deaths that can possibly be caused by smoking and exposure to SHS in 2015, 35% of them were due to smoking and SHS in men compared with 25% among women. In relation to deaths from any cause, the burden of smoking-related deaths is almost 50% higher in men than women (23% versus 16%, respectively). Further detail is provided in Annex 2.

²² Evans DS, O'Farrell A, Sheridan A, Kavanagh P. Youth Smoking in Ireland: A Special Analysis of the Health Behaviour of School-Aged Children Study. HSE, 2018.

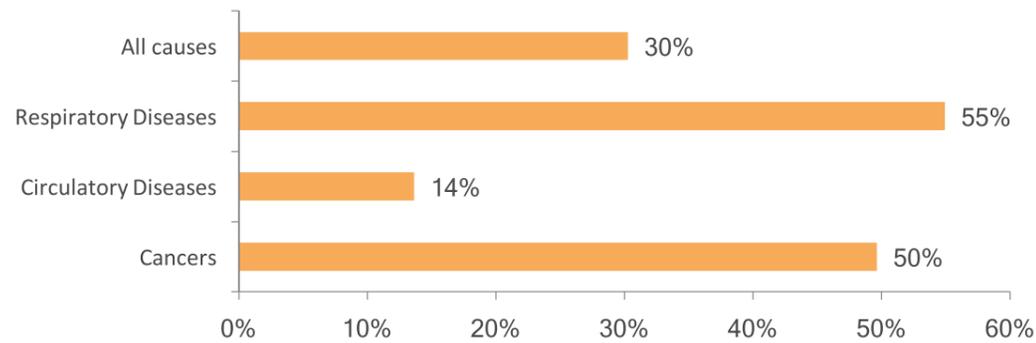
Table 4: Deaths estimated to be attributable to smoking and exposure to SHS, by gender, 2015

	Males	Females
% of deaths than can be caused by smoking and exposure to SHS, estimated to be attributable to smoking & exposure to SHS	35%	25%
% of all deaths, estimated to be attributable to smoking & exposure to SHS	23%	16%

Sources: Vital Statistics, CSO, HSE calculations

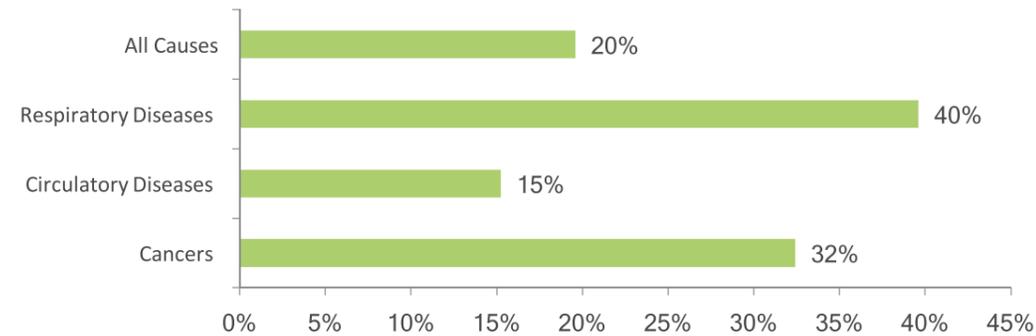
This smoking-related burden of deaths was further examined by clinical grouping. In 2015, as illustrated in Figure 33, 55% of deaths from respiratory diseases, and half of cancers that can be caused by smoking, were estimated to be caused by smoking and exposure to SHS. In relation to all deaths, 40% of all deaths from respiratory diseases, and 32% of malignant cancers, were estimated to be attributable to smoking and exposure to SHS (Figure 34).

Figure 33: Percent of deaths for conditions that can be caused by smoking, that were estimated to be attributable to smoking and exposure to SHS, 2015



Sources: HPO, HSE calculation

Figure 34: Percent of deaths for all these conditions that were estimated to be attributable to smoking and exposure to SHS, 2015

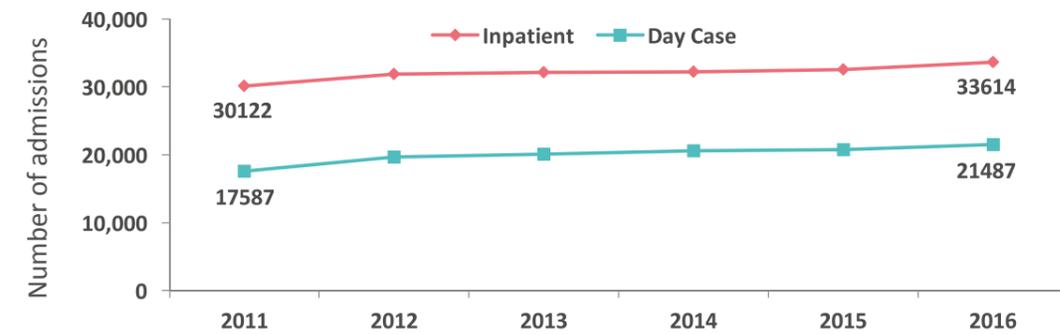


Sources: HPO, HSE calculation

3.3 Hospitalisations due to smoking & exposure to Second-Hand Smoke (SHS)

Similarly, through linking epidemiological information on the risk of smoking-attributable diseases with data on smoking in the population, hospitalisations attributable to smoking in Ireland can be identified (additional information is available in Annex 2). In 2016, as shown in Figure 35, there were estimated to be approximately 34,000 inpatient hospital admissions attributable to smoking and exposure to SHS; this is an increase of approximately 13% since 2011. In addition, there were approximately 22,000 day case admissions; this is an increase of approximately 22% since 2011.

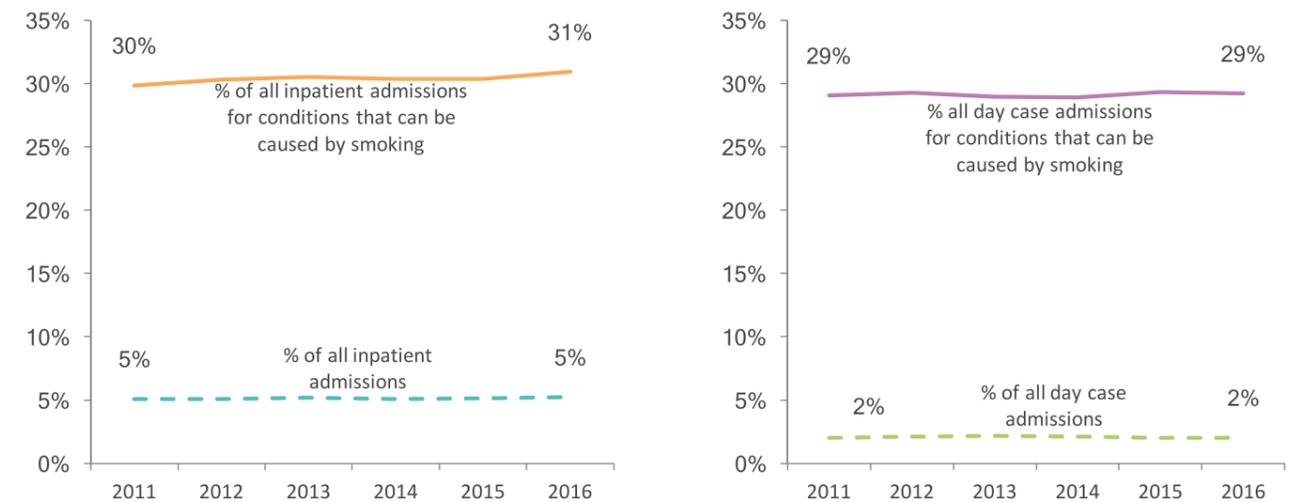
Figure 35: Trend in crude number of hospital admissions (inpatient and day case) estimated to be attributable to smoking & SHS, 2011-2016



Sources: HPO, HSE calculation

In 2016 this represents 31% of all inpatient admissions and 29% of all day case admissions, for conditions than could be caused by smoking. In total, in Ireland in 2016, 5% of all inpatient hospital admissions and 2% of all day case hospital admissions could be avoided if Ireland was tobacco free. As shown in Figure 36, both proportions remained unchanged for inpatients and day cases in recent years.

Figure 36: Trend in crude proportion of hospital admissions (inpatient and day case) estimated to be attributable to smoking and SHS, 2011-2016 (any cause and smoking attributable)



Sources: HPO, HSE calculations

The burden of smoking attributable hospitalisation is again greater among men than women. As illustrated in Table 5, of admissions that can be caused by smoking, in 2016 35% of these were due to smoking among men compared with 27% among women. Relating this to hospitalisation due to any cause, the burden of smoking related hospitalisation among men was almost twice that among women (7% versus 4% respectively).

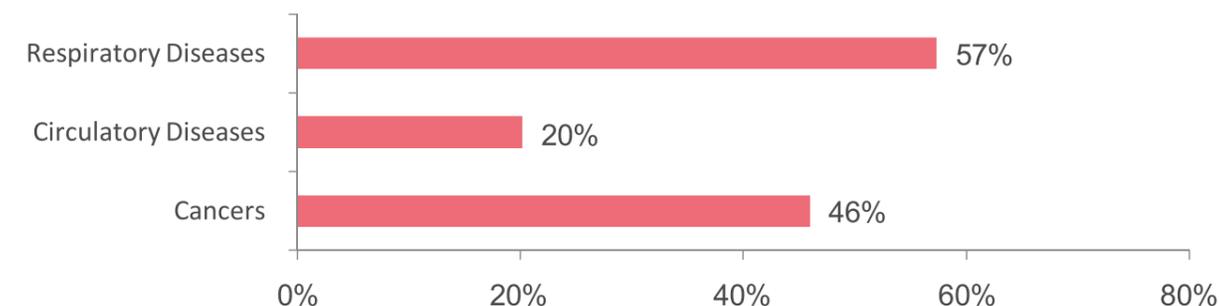
Table 5: Admissions estimated to be attributable to smoking and exposure to SHS, by gender, 2016

	Males	Females
% of inpatient admissions that can be caused by smoking and exposure to SHS, estimated to be attributable to smoking & exposure to SHS	35%	27%
% of all inpatient admissions, estimated to be attributable to smoking & exposure to SHS	7%	4%

Sources: HPO, HSE calculations

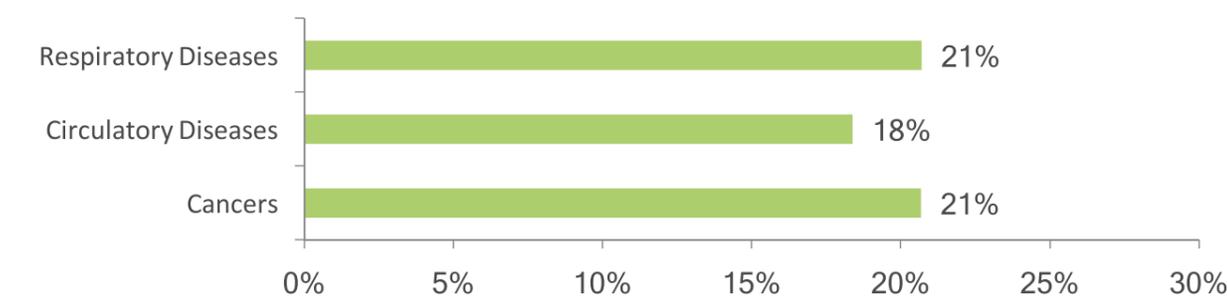
This smoking-related burden of hospitalisation was further examined by clinical grouping. In 2016, as illustrated in Figure 37, almost 60% of inpatient admissions for respiratory conditions, and half of admissions related to cancers that can be caused by smoking, were estimated to be attributable to smoking and exposure to SHS. Relating this to all admissions due to any cause, as illustrated in Figure 38, approximately one in five inpatient admissions for respiratory diseases, circulatory diseases and cancers were estimated to be attributable to smoking and exposure to SHS.

Figure 37: Percent of inpatient admissions with conditions that can be caused by smoking and exposure to SHS.



Sources: HPO, HSE calculations

Figure 38: Percent of inpatient admissions for all these conditions that were attributable to smoking or exposure to SHS, 2016



Sources: HPO, HSE calculations

3.4 The cost of tobacco use in Ireland

The costs associated with the impact of tobacco-related disease are well-recognised; tobacco use is estimated to cost the world's economies more than US\$ 1 trillion annually in healthcare expenditure and lost productivity.²³ Globally, the burden of tobacco-related disease and costs are increasingly borne by low and middle income countries but, even in higher income countries like Ireland, the costs of tobacco use are significant and lifetime healthcare costs are greater for people who smoke than for people who do not, even after accounting for the shorter lives of people who smoke.

These were recently quantified by the Department of Health and some key findings are illustrated in Table 6: in total, the estimated annual costs, including welfare losses, are €10.7 billion.²⁴ Given the high costs associated with tobacco use, policies and programmes which reduce demand are highly cost-effective and offer government good value for money and a good return on improving public health.

Table 6: Impact of smoking in Ireland and costs, 2013

Impact	Number	Cost (€ million)
Deaths attributable to smoking and second-hand smoke	5,950	-
Hospital inpatient admissions	31,500	171
Hospital day case appointments	19,300	13
Hospital outpatient appointments	116,300	15
Hospital emergency department attendances	38,000	10
Primary care	-	256
Hospital transportation	12,700	1
Domiciliary care	-	40
Loss of productivity – smoking breaks	-	136
Loss of productivity – smokers' absence	-	224
Lost productivity – premature death	-	711
Fires	380	4
Fatalities from fires	1	2
Litter	-	69

Source: ICF International, Department of Health Dublin.

²³ U.S. National Cancer Institute and World Health Organization. The Economics of Tobacco and Tobacco Control. National Cancer Institute Tobacco Control Monograph 21. NIH Publication No. 16-CA-8029A. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute; and Geneva, CH: World Health Organization; 2016.

²⁴ ICF International for the Department of Health. An assessment of the economic cost of smoking in Ireland. Dublin, 2015.

4. Tobacco control – the scale and impact of HSE activities

4.1 Compliance and enforcement of tobacco control legislation

The HSE Environmental Health Service (EHS) is one of the major enforcement agencies in Ireland for tobacco products, including electronic cigarettes and refill containers, and works in close collaboration with the Department of Health and other national regulatory agencies. The EHS delivers its tobacco control responsibilities through national, regional and local staffing structures, all under the oversight of the Assistant National Director for Environmental Health and the Environmental Health Management Team.

An intrinsic part of the Environmental Health Service (EHS) is the National Tobacco Control Office (NTCO) which administers the National Register of Tobacco Retailers (NRTR) and Lo-Call compliance line (1890 333 100). Regionally and locally the service works through its multidisciplinary Environmental Health teams that enforce legislation across a wide range of public protection fields including food safety, cosmetics safety, port health and tobacco control. These organisational arrangements taken together allow for a successful balance between national strategic goal setting and local service delivery, together with the development of centralised specialist expertise. This is supported by a national Environmental Health Information System (EHIS) and a suite of national protocols to ensure consistency of approach.

The EHS enforces a comprehensive set of tobacco control legislation which includes sale of tobacco products to persons under the age of 18 years, smoking in workplaces, registration of retailers, point of sale advertising, product labelling and presentation (further information on key legislation is presented in the panel). It is also the competent authority for the recently transposed Tobacco Products Directive (TPD), which places a wide range of new responsibilities upon the EHS in relation to tobacco products, electronic cigarettes (e-cigarettes) and refill containers, cross-border distance sales, herbal products and novel products.

Key Tobacco Control Legislation

- Public Health (Tobacco) Act 2002 as amended and Regulations made thereunder.
- Regulations made under Tobacco Products (Control of Advertising, Sponsorship and Sales Promotion) Act 1978.
- Public Health (Standardised Packaging of Tobacco) Act 2015 as amended and Regulations made thereunder.
- European Union (Manufacture, Presentation and Sale of Tobacco and Related Products) Regulations 2016 as amended.

What this means?

This array of legislation includes the requirement that tobacco retailers be registered on the National Register of Tobacco Retailers (NRTR) before they can sell tobacco. In addition, there are requirements on how tobacco can be sold, the provision of signage, location of token operated self-service vending machines and prohibition of sales of tobacco to any person under 18 years of age. Advertising and sponsorship is prohibited, packs of less than 20 cigarettes are banned as are products resembling confectionary. General combined warnings and yields are required. Smoking in specified public places is prohibited subject to specific exemptions.

The new Tobacco Products Directive (TPD) has been transposed into law in the Republic of Ireland by the European Union (Manufacture, Presentation and Sale of Tobacco and Related Products) Regulations 2016, as amended, and has added further to the legislative base. These Regulations include provisions in relation to mandatory reporting of information in relation to tobacco products, electronic cigarettes and refill containers, novel and herbal products, to the HSE. There is a requirement for the HSE to make publicly available some of this information whilst taking into account the need to protect trade secrets. In addition, there are packaging and labelling rules, plus safety and quality requirements for such products. Where economic operators consider or believe a product to be unsafe or not of good quality or otherwise non-conforming they must take immediate corrective action to bring the product into conformity or withdraw or recall it. They must also inform the HSE as the market surveillance authority.

Furthermore, new graphic health warnings supersede those provided for under the Public Health (Tobacco) (General & Combined Warnings) Regulations 2011 and now must cover 65% of the external front and back of cigarette and Roll Your Own (RYO) packs and shall include QUIT smoking cessation information. Certain types of RYO packaging such as 30g pouches carry additional internal health warnings which can be seen when the pack is opened including the warnings 'Tobacco smoke contains over 70 substances known to cause cancer' and 'Smoking Kills.' Also the tar, nicotine and carbon monoxide (TNCIO) labelling is no longer permitted on the packs.

In addition, under the Public Health (Standardised Packaging of Tobacco) Act 2015 all forms of branding trademarks, logos, colours and graphics must be removed from tobacco packs. The brand and variants names are permitted, however presented in a uniformed typeface for all brands and the packs must be in one plain neutral colour. The Public Health (Standardised Packaging) Regulations were introduced into the Republic of Ireland on 30th September 2017. Tobacco products manufactured or released for circulation prior to 30th September 2017 which do not comply with the standardised packaging requirements, can continue to be sold until 30th September 2018. Tobacco products manufactured or released for circulation after 30th September 2017 must comply with the standardised packaging requirements (Figure 39).

Figure 39: WHO World No Tobacco Day 2016 Plan Packaging Campaign



Source: World Health Organization, based on an image from the © Commonwealth of Australia.

4.1.1 Registration of points of sale of tobacco products

As at end 2017, over 13,000 retail outlets were registered to sell tobacco including 6,090 licensed premises, 3,792 convenience stores and a variety of others (Table 7). As the tobacco retailer may make one registration application in respect of a number of retail outlets under the same ownership, the number of retail outlets is greater than the number of tobacco retailers registered with the HSE NTCO.

Table 7: Number and Type of Retail Outlets with Counter Sales, 2017

Premises Type	Number of Premises
Convenience Store/Newsagent/Grocer	3,792
Hotels	688
Garage Forecourts	1,209
Licensed Premises	6,090
Restaurants	95
Registered Clubs/Nightclubs	168
Supermarkets	974
Other	179
Total	13,195

Source: HSE Environmental Health Services

In addition to retail outlets registered for counter type sales, other outlets are registered to sell tobacco by means of a self-service vending machine. As at end 2017, there were 7,690 retail outlets with vending machines (Table 8) bringing the total number of outlets for tobacco products to 20,885.

Table 8: Number and Type of premises with Vending Machines, 2017

Premises Type	Number of Premises
Hotels	779
Licensed Premises	6,586
Registered Clubs/Nightclubs	291
Restaurants	33
Vessels	1
Total	7,690

Source: HSE Environmental Health Services

The NTCO has the legal responsibility to maintain and manage the retail register in accordance with the Public Health (Tobacco) Acts. The data below in Table 9 presents the volume of activity in relation to maintaining the register.

Table 9: Registration Activity, 2014-2017

Year	2014	2015	2016	2017	Total
Applications for Registration	617	521	481	528	2,147
Update Existing Applications	343	278	231	294	1,146
De-registration	656	551	396	508	2,111
Request for replacement registration number stickers	500	350	267	355	1,472

Source: HSE Environmental Health Services

A retailer (registered to sell tobacco) who is convicted of an offence under the Public Health (Tobacco) Acts can be temporarily suspended from the register for a period of up to 3 months. The period of suspension is at the discretion of the judge at the time of the conviction. Periods of suspension have ranged from 1 hour to 3 months. During the period of suspension the retailer is prohibited from selling tobacco.

4.1.2 Responding to complaints and queries about tobacco control

Priority is given by the EHS to the investigation of complaints and responses to queries in order to build and ensure compliance with the law. Complaints are received mainly via the Lo-Call Compliance Line and via info.ntco@hse.ie. In addition, the NTCO receives complaints by written correspondence. Complaints are recorded on the Environmental Health Information System (EHIS). A total of 1,845 queries and requests for information were received by the HSE NCTO in 2017, 553 of which related to the new TPD legal requirements. Table 10 below shows a breakdown of the type and number of complaints received in 2014-2017.

Table 10: Complaints by Type and Number, 2014-2017

Type	2014	2015	2016	2017	Total
Advertising	3	3	2	9	17
Outdoor Shelter	51	25	6	17	99
Sales to Minors	11	11	2	9	33
Smoking	38	33	35	73	179
Self-Service Vending Machines	1	1	0	0	2
Tobacco Products	1	1	0	8	10
E-cigarettes and Refill Containers	0	0	0	35	35
Marketing Practices	0	0	0	3	3
Tobacco Sales	0	2	0	8	10
Total	105	76	45	162	388

Source: HSE Environmental Health Services

Examples of Complaints

- *Sales to minors* – A sale has been witnessed or a complainant believes that a minor has been sold tobacco products in a retail outlet
- *Advertising* – A tobacco retail outlet has displayed a tobacco product, displayed a sign that bears the brand name of a tobacco product or displayed other publications of a trademark, emblem, marketing image or logo associated with a tobacco product
- *Outdoor shelters* - The complainant believes that a smoking structure is not compliant
- *Smoking* - Consumption of tobacco is occurring in a specified place as defined in the Public Health (Tobacco) Acts
- *A self-service vending machine (SSVM)* is not within view/supervised by staff or it is not token/device activated.
- *Tobacco Products* - Products other than cigarettes/cigars/pipe tobacco (for example oral tobacco such as snus or shisha pipe tobacco) are on sale and do not comply with tobacco control legislation
- *Tobacco Sales* – Promotion of tobacco products, for example, a voucher or a 2-for-1 offer.

In addition, queries are received by telephone, or to the following dedicated e-mail addresses - info.ntco@hse.ie (for general queries), info.tobaccoregister@hse.ie (for specific queries regarding registration) and info.tpd@hse.ie (for queries regarding the Tobacco Products Directive and how it applies to businesses in Ireland). Table 11 shows the volume of queries received over recent years.

Lo-call compliance line – 1890 333 100

Table 11: Number of Queries received, 2014-2017

Year	Number
2014	1,730
2015	1,955
2016	1,677
2017	1,813
Total	7,175

Source: HSE Environmental Health Services

Examples of queries

- *National Register of Tobacco Retailers* - Retailers asking about their status on the register, requesting replacement of registration stickers and signs, assistance with the completion of an application form
- *Exemptions to the Public Health Tobacco Acts* – Nursing Homes/Prisons/ Facilities for persons with intellectual disability

- Requirements for erecting/providing a smoking area
- TPD queries are about notifications through the European Union-Common Entry Gate (EU- CEG), labelling of e-cigarette and refill container packaging, and registration for Cross-Border Distance Sales.

4.1.3 Building and ensuring compliance

Over 15,000 inspections were undertaken in 2017 as illustrated in Table 12. Of these 12,108 resulted in a satisfactory outcome, giving an overall 80% compliance level similar to previous years as shown in Table 13. The most common contraventions found were: non-compliant outdoor smoking shelters, absence of 'no smoking' signs in workplaces (mainly licensed premises) and failure to register on the National Tobacco Register for Retailers.

Table 12: All inspections by type of outcome 2017

Inspection Type	Satisfactory Outcome	Unsatisfactory Outcome	Total	% Compliant
TPD inspections and related samples	0	30	30	0%
Advisory	145	37	182	80%
Complaint	26	38	64	41%
Follow Up	336	340	676	50%
Planned	9,437	2,101	11,538	82%
Surveillance	2,109	377	2486	85%
Survey	55	33	88	63%
Total	12,108	2,966	15,064	80%

Source: HSE Environmental Health Services

Table 13: Number of Inspections and Compliance Rates 2014 - 2017

Year	Satisfactory Outcome	Unsatisfactory Outcome	Total	% Compliant
2014	14,453	3,568	18,021	80%
2015	14,917	3,055	17,972	83%
2016	13,187	2,930	16,117	82%
2017	12,108	2,966	15,064	80%

Source: HSE Environmental Health Services

Inspections commenced in 2017 of manufacturers and retailers of e-cigarettes and refill containers in respect of the implementation of the Tobacco Products Directive (TPD) as transposed in the EU (Manufacture, Presentation and Sale of Tobacco Products) Regulations 2016, as amended. A total of 30 business premises were inspected and samples of product were also procured from retail businesses for desk-top analysis by the EHS. Inspections focussed on products placed or intended to be placed on the market for sale to the consumer. All inspections (including related product sampled) showed some degree of non-compliance with the legislation.

Manufacturers and importers are required to notify specified information to each Member State through a portal developed and hosted by the EU Commission known as EU Common Entry Gate (EU-CEG). Certain notified data must be published by the HSE. The HSE as the competent authority received 31,087 notifications

of tobacco products, and electronic cigarettes and refill container products up to 31st December 2017. At this date there were no notifications for novel tobacco products and one for herbal products. There have also been notifications received from industry all over Europe and from the USA, Dominican Republic, Canada, China, Korea and Malaysia. There are 5 manufacturers of e-cigarettes and refill containers in the Republic of Ireland and no manufacturer of tobacco products. An overview is presented in Table 14.

Cross-border distance sales refers to sales made directly to consumers who are not located in the same Member State as the retail outlet, e.g. internet sales. Those retailers who engage in cross-border distance sales are required to register with the HSE. The list of registered cross-border distance sales retailers is published on the HSE website: <http://www.hse.ie/eng/about/Who/TobaccoControl/Tobaccoproductdirective/> and 62 applications for cross-border distance sales were received by the HSE up to 31st December 2017.

The EHS has, with the consent and co-operation of parents and children, undertaken test purchase programmes over recent years. Test purchasing involves volunteer minors attempting to purchase tobacco products from retail outlets.

Although, over the past four years, there has been a steady increase in the rate of refusals to sell tobacco to volunteer minors, from 80% to 90% (as illustrated in Table 15 below), the fact that 1-in-10 sales are still made to minors remains a cause for concern. It also highlights the need for greater vigilance by retail outlets and counter staff, and indicates that greater training of counter staff is required.

Table 14: Tobacco Products Directive Activities 2017

Number of Submissions/notifications through the European Union Common Entry Gate (EU-CEG)	Number
E-cigarettes and Refill containers	31,087
Novel Products	3
Herbal Products	1
Number of complaints received	
E-cigarettes and refill containers	31
Novel Products	0
Herbal Product	1
Number of Requests for Information	
Requests received and responded to within agreed timeframes	553
Number of Programmed Inspections (including complaints investigation)	
Manufacturer	1
Importer	0
Distributor	0
Retailer	29
Sampling Programmed and Reactive	
Numbers of programmed samples of product procured	28
Number of samples procured as a result of complaint	1
Cross Border Distance Sales	
Number of Applications received	36
Number of Applications processed (inc. 2016 applications)	66

Source: HSE Environmental Health Services

Table 15: Test purchase attempts by minors to obtain tobacco products, 2014-2017

Year	Satisfactory	Unsatisfactory	Total	% Compliant
2014	378	104	482	78%
2015	459	92	551	83%
2016	472	66	538	88%
2017	386	43	429	90%

Source: HSE Environmental Health Services

Legal action by way of prosecution is taken for serious or continuing non-compliances. Details of tobacco related convictions under the Public Health (Tobacco) Act are published on the HSE website for 2014–2017. The publication of such convictions is an important means of continuing to raise awareness of the law and demonstrate to those who comply with the law that action is being taken against those who do not. In total, 17 convictions were secured in respect of prosecution cases for offences relating to failure to prevent smoking in a workplace, S.47 of the Public Health (Tobacco) Act 2002 as amended and Regulations made thereunder, failure to register on the National Retailers’ Register and sale of tobacco products to minors. A breakdown of tobacco case convictions by type for 2017 is illustrated in Figure 40 below.

Figure 40: Number of Tobacco cases by type resulting in convictions in 2017



Source: HSE Environmental Health Services

Overall compliance levels with tobacco control legislation remain at a high level. However, the aspects where greatest non-compliance was found, such as non-compliant smoking shelters, over the counter/vending machine sales to minors, and new legislation such as the TPD, will continue to receive priority attention through inspection and test purchase programmes with resultant prosecution cases where warranted.

Compliance levels in relation to TPD are very low. This appears to be due to a lack of knowledge by economic

operators (manufacturers, importers, distributors and retailers) about their legal obligations under the law. Work commenced by the HSE in 2017 in relation to manufacturers, retail premises inspections, product sampling and compliance building. So far, it appears that economic operators want to comply with the law and are responding in a positive manner when non-compliances are brought to their attention by the HSE. However, the responsibility for compliance with the law rests with the economic operator and it is incumbent on them to ensure that they gain the knowledge they require to comply with the law. It is anticipated, subject to resources, that all retail premises throughout the Republic of Ireland will be inspected in the coming years and all manufacturers based in the Republic of Ireland will be inspected in 2018.

Apart from the legal obligations upon business, the negative health implications of tobacco exposure should be recognised and businesses are invited to work closely with Environmental Health Officers in achieving and maintaining compliance.

The EHS may be contacted for advice through its network of local offices or via its 3 dedicated e-mail addresses and phonenumber:

- info.ntco@hse.ie - for general queries or to make a complaint
- info.tobaccoregister@hse.ie - for specific queries regarding registration
- info.tpd@hse.ie - for queries regarding the Tobacco Products Directive and how it applies to businesses in Ireland
- Lo-call Compliance Line – **1890 333 100**

4.2 Communication about the dangers of smoking and support to quit

Mass media and tobacco control – the evidence

The tobacco industry has a long history of using mass media to effectively promote consumption of tobacco products globally through heavy promotion, sponsorship, and product placement. It has communicated key messages about the perceived positive benefits of smoking (e.g. relaxation, social success and thinness) and countering concern about dangers, as well as targeting certain populations. Tobacco advertising and promotion increase smoking initiation among youth, and exposure to tobacco product use in the movies is identified as a cause of youth smoking initiation.²⁵ For this reason bans on tobacco advertising and promotion reduce tobacco use, are integral to tobacco control, and comprehensive approaches are required since partial bans can be circumvented by the tobacco industry.

Media can also be used to control tobacco use through warning people about the dangers and signposting them to smoking cessation services. Mass media campaigns, especially when delivered in conjunction with a comprehensive approach to tobacco control, are effective as part of wider communications and education in preventing smoking initiation and promoting smoking cessation.²⁶ Campaign reach, intensity, duration and

²⁵ National Cancer Institute. The Role of the Media in Promoting and Reducing Tobacco Use. Tobacco Control Monograph No. 19. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute. NIH Pub. No. 07-6242, June 2008.

²⁶ Durkin S, Brennan E, Wakefield M Mass media campaigns to promote smoking cessation among adults: an integrative review Tobacco Control 2012;21:127-138.

message type are key considerations. To be effective, a mass media campaign must reach sufficient numbers of people, especially in high-prevalence groups, with television a primary channel. In addition, inclusion of messages about the negative health effects of smoking, while stark, are more effective in changing smoking knowledge, attitude and behaviour in a way that promotes quitting. Overall, investment in mass media campaigns to warn about the harms caused by smoking as part of a comprehensive tobacco control programme is good value for money.²⁷ In the UK, for example, it was found that a 10% increase in mass media expenditure lead to a 0.5% increase in the success rates of quit attempts.²⁸ Mass media campaigns must be independent, since campaigns sponsored by the tobacco industry are not effective and may even increase youth smoking. HSE smoking cessation marketing campaigns have also been independent of the tobacco industry.

The HSE QUIT campaign uses a mix of paid and earned media, including traditional (TV, radio, press), social media, search, partnerships with news agencies and public relations, partnerships and activations, to warn the public about the dangers of smoking to health, to promote the benefits of giving up smoking and to signpost quitters to supports and services.

As the QUIT campaign has evolved, much of its activity fits the 'offer help to quit tobacco use' action of the MPOWER model. The campaign provides practical information on how to quit smoking and links into services which support people to quit. In addition to traditional communication channels including television, radio and print, new media channels provide further opportunities for engagement. For example, www.QUIT.ie provides a clear call to action, with a personalised support plan available free of charge and a facility for live chat online, or a free phone number; the QUIT Facebook community, with over 100,000 followers, provides online peer-to-peer support.

The HSE has successfully delivered a series of QUIT campaigns (Figure 41), all evidence-based in terms of their messaging. These commenced in 2011 with '1 in every 2 smokers,' which highlighted the bleak odds of dying from a smoking-related illness facing people who smoke, their families and loved ones. In 2014, a new and multi-award winning phase began, centring on Gerry Collins, who formerly smoked, who spoke of his experience of cancer. It again highlighted the risks of smoking, underscoring the tragic and avoidable personal impact on people who smoke and their families.

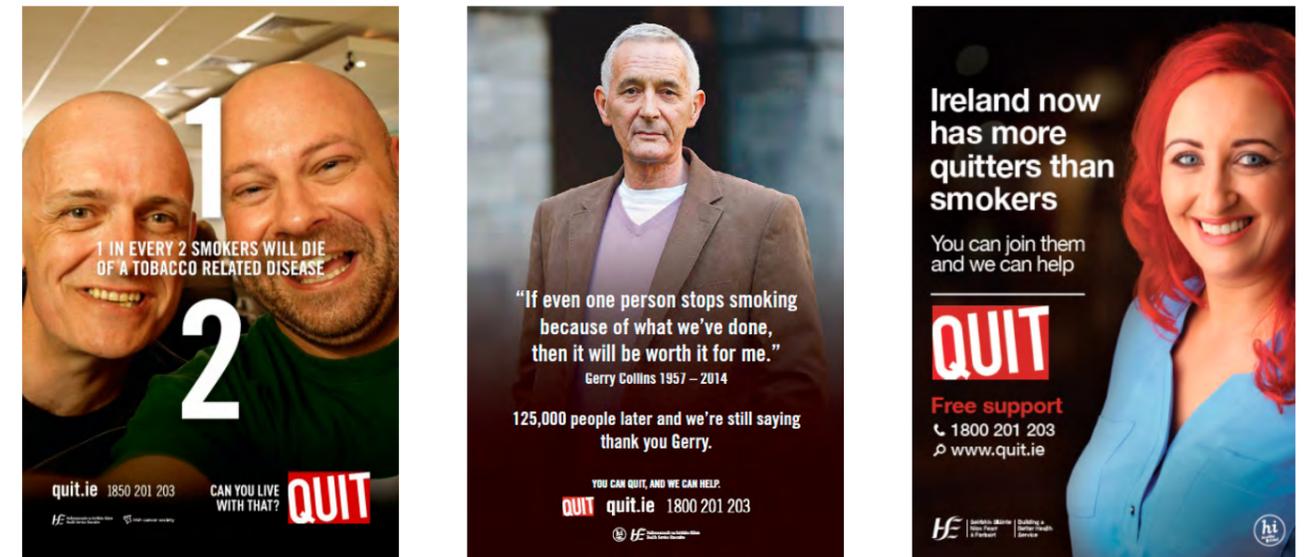
Most recently 'I will survive' leveraged the social momentum on the quit movement, since there are now more quitters than smokers in Ireland. It was designed to nudge those 3 in 5 people who smoke who would like to make a quit attempt, to join those who have already successfully quit. Again, in line with International and domestic evidence, this also uses a hard-hitting message, 'Did you think I would lay down and die?' to demonstrate the real life health risks by showing the audience a visibly scarred person who smokes reflecting on his own experience.

Television is supported by a radio campaign 'Emotions' which shows people who smoke experiencing 'Fear' a common barrier to smoking cessation, 'Guilt' of not being the role model required, 'Loneliness' as one of those in the minority who still smokes and 'Pride,' a modest yet real joy on realising that you are smoke-free after a year.

27 Atusingwize E, Lewis S, Langley T Economic evaluations of tobacco control mass media campaigns: a systematic review Tobacco Control 2015;24:320-327.

28 Kuipers MAG, Beard E, West R, et al Associations between tobacco control mass media campaign expenditure and smoking prevalence and quitting in England: a time series analysis Tobacco Control Published Online First: 30 June 2017. doi: 10.1136/tobaccocontrol-2017-053662

Figure 41: Highlights from recent HSE Quit campaigns

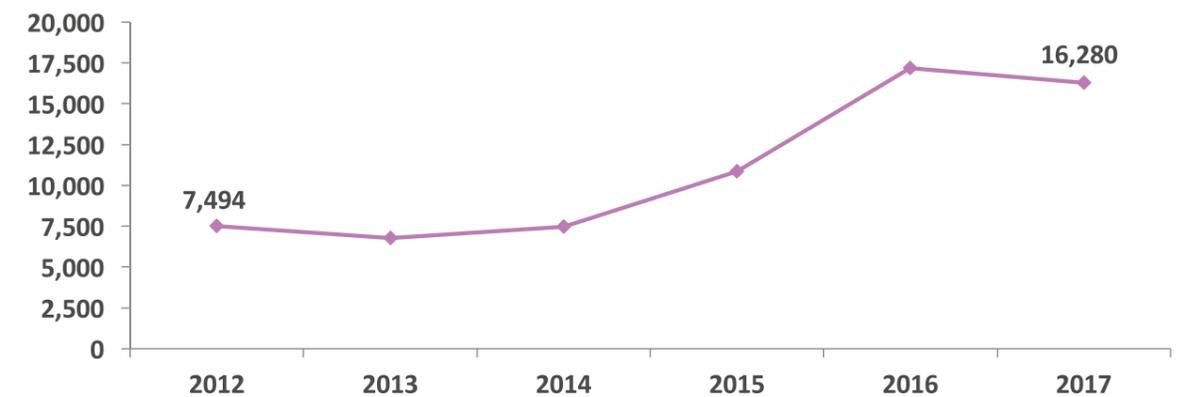


Source: HSE Communications

4.2.1 Demand for online smoking cessation services

In conjunction with demand for smoking cessation services, website activity provides a useful indicator of the impact of mass media campaigns, as well as other tobacco control measures (Figure 42). In particular, measuring the number of QUIT Plan sign-ups through www.QUIT.ie provides a useful measure, since it reflects a higher level of engagement and commitment on the part of the service user. Visits to the QUIT website leading to QUIT Plan sign up have increased from 7,494 in 2012 to 16,280 in 2017, a 124% increase; the highest activity was observed in 2016, with 17,166 QUIT Plan sign ups. This is against a backdrop of an increase in sessions on the QUIT website from 117,352 in 2012 to 245,430 in 2017, a 110% increase. Based on recent smoking prevalence in the population, in 2017 demand for online smoking cessation support was approximately 300 QUIT website sessions per 1,000 people who smoke and 20 QUIT Plan sign ups per 1,000 people who smoke.

Figure 42: Quit Plan Sign Ups via Quit Website, 2012 to 2017



Source: HSE Communications

Most of the demand for QUIT.ie is among females (66% versus 34% males); demand is high among people aged 25-34 years and 35-44 years (Figure 43). Compared with the profile of people who smoke in Ireland, demand for online support services is relatively higher among females and younger people who smoke.

Figure 43: Gender and age profile of Quit.ie users compared to people who smoke in Ireland, 2015



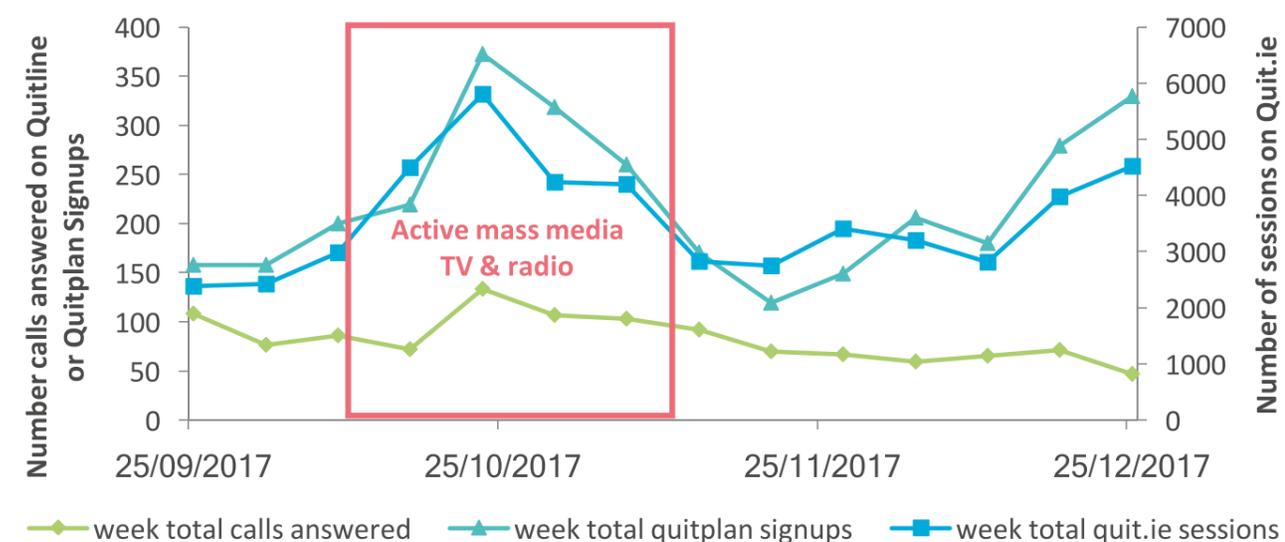
Quit.ie session 2015-2017, * 64% of total sessions; ** 62% of total sessions

Sources: HSE Communications & Healthy Ireland 2015 rmf

4.2.2 Impact of mass media on demand for smoking cessation services

A focus on 2017 activity demonstrates how HSE mass media campaigns impact on demand for smoking cessation support. For example, a mass media campaign was active on television from 23rd October to 12th November 2017 and on radio from 23rd October to 5th November 2017. Figure 44 demonstrates the impact on demand for Quit services: compared with the average activity in the preceding 4 weeks, there was a 56% increase in calls to the QUIT helpline, an 89% increase in sessions on the QUIT website and a 102% increase in QUIT Plan sign-ups, following commencement of the mass media campaign.

Figure 44: Demonstration of the impact of mass media campaigns on demand for Quit services, September-end to December 2017.



Sources: HSE Communications and HSE QUIT line service

In addition to TV and radio, as illustrated above, Facebook is an important channel for targeting people with QUITcampaign messages and driving people towards QUIT services. Promoted Facebook posts on 20th and 21st October before the campaign was active on radio and television also contributed to an increase in demand for QUIT services.

The Facebook post in Figure 45 which was published on 20th October resulted in over 3,300 visits to the website with just over 4% of visitors signing up for a QUIT Plan.

Figure 45: Example of Facebook post, October 2017



292 Reactions 53 Comments 34 Shares

Sources: HSE Communications

4.3 Offering help to quit

Interventions to help people quit – the evidence

Most people who smoke are interested in quitting and each year as many as 1 in 2 people who smoke in Ireland make a quit attempt. It is estimated that approximately 1 in 10 of those who make a quit attempt will be smoke-free at 12 months and, for some, more than one quit attempt will be required to remain smoke-free. However, there are a range of behaviour-based and medication-based interventions that have proven effective in increasing the likelihood that making a quit attempt will be successful. In 2017, the Health Information and Quality Authority (HIQA) published a comprehensive and up-to-date review of the evidence confirming the effectiveness, safety and cost-effectiveness of interventions to help people quit.²⁹ All behaviour-based interventions were effective and compared with a control (defined as brief advice or written materials) group: behaviour therapy was the most effective intervention increasing the likelihood of a successful quit attempt almost 2-fold (Relative Risk 1.85, 95% CI: 1.53 – 2.23). For medication-based interventions, all were more effective

²⁹ Health Information and Quality Authority. Health technology assessment (HTA) of smoking cessation interventions. Dublin, Health Information and Quality Authority; 2017.

than control: varenicline with NRT was the most effective dual therapy increasing the likelihood of a successful quit attempt over 3-fold (RR 3.54, 95% CI: 2.57 – 4.61); varenicline was the most effective monotherapy increasing the likelihood of a successful quit attempt over 2-fold (RR 2.57, 95% CI: 2.32 – 2.85). In summary, people who smoke and are making a quit attempt can increase the likelihood of effectively becoming smoke-free by over 2-3 fold through accessing help and using a smoking cessation intervention.

In addition to its QUIT website providing information to people who smoke interested in quitting, the HSE offers people help to quit with telephone support or through face-to-face smoking cessation services, where they are offered behaviour-based and/or medication-based interventions based on their preference. All services offered have proven effectiveness, as demonstrated by the recent HIQA assessment. In general, people who smoke are offered a programme which follows a standard, is evidence-based and is an internationally benchmarked protocol, to ensure service users are offered the best support to quit (Figure 46).³⁰ They can choose between a range of service offerings which meet their preferences, and these are delivered taking account of individual needs.

Figure 46: HSE standard tobacco cessation support programme



Source: HSE Smoking Cessation Services

E-cigarettes were examined by the Health Information and Quality Authority, which advised the Minister for Health that their effectiveness as a smoking cessation aid was uncertain; furthermore, it identified that “in addition to the uncertainty about the effectiveness of e-cigarettes as a smoking cessation aid, there are also concerns that the social normalisation of e-cigarettes may lead to new use by people who have never smoked, later migration to tobacco cigarettes, long-term nicotine dependency, and other potential and as yet unknown harms.” As a consequence, and in line with the position set out in *Tobacco Free Ireland*, the HSE does not offer e-cigarettes as a smoking cessation intervention; however, any person who smokes who is interested in making a quit attempt using these devices is supported by the HSE services in the usual way. This is also in line with the HSE’s approach of offering evidence-based cessation supports.

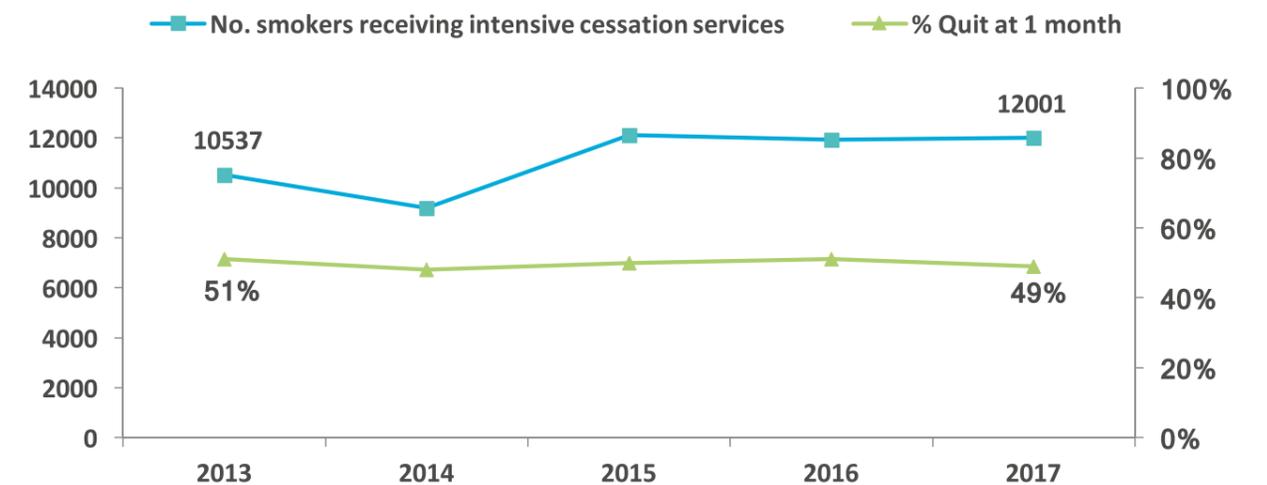
³⁰ Health Service Executive. National Standard for Tobacco Cessation Support Programme. Health Service Executive, 2013.

4.3.1 Demand for smoking cessation services and impact

Figure 47 shows the recent demand for HSE intensive smoking cessation services, delivered by telephone or face-to-face using the standard treatment programme, and the outcomes after one month. In 2017, 12,001 people who smoked entered intensive smoking cessation services, equivalent to 14 per 1,000 people who smoke. In general, 1 in 2 people who smoked and who entered the standard treatment programme with HSE services and set a quit date were smoke-free at one month.

This benchmarks well with similar services internationally; for example, in the period April 2017 to September 2017 across NHS Stop Smoking Services in England 49% of people who set a quit date and continued for a 4 week follow-up were smoke-free.³¹

Figure 47: Trends in numbers of people who smoke receiving intensive cessation services and outcomes, 2013-2017



Source: HSE QUIT Line and Smoking Cessation Services

Note: 2016 data are corrected versus previous publication

4.3.2 Demand for telephone-based smoking cessation services

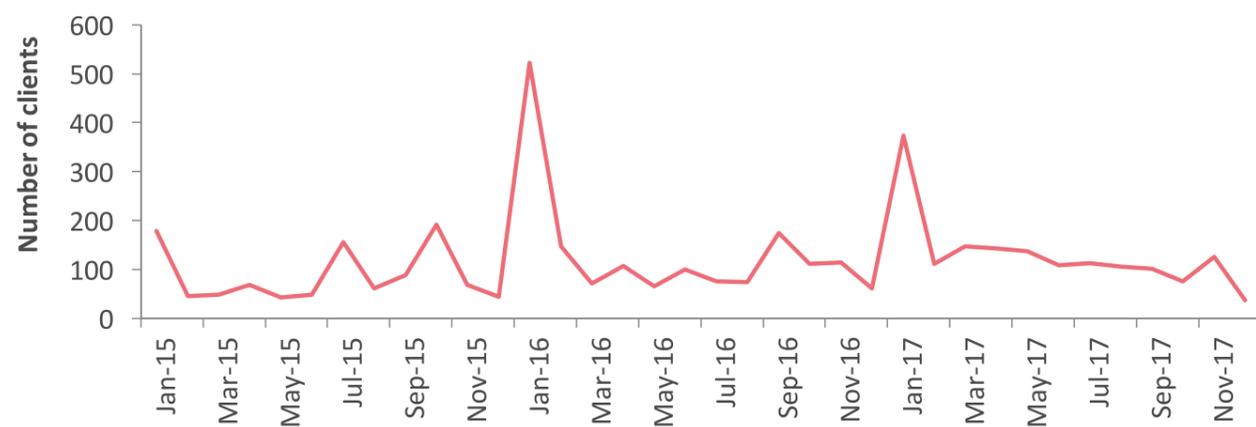
The HSE offers telephone-based smoking cessation services through its QUIT Line provided by RelateCare. This service is free of charge, delivered by specially trained smoking cessation practitioners in line with the standard treatment programme and with outcomes defined and measured to the internationally recognised Russell Standard.³² Figure 48 shows demand for HSE telephone smoking cessation services. This follows a seasonal pattern and there is typically highest demand for services in January each year.

³¹ NHS Digital. Statistics on NHS Stop Smoking Services in England April 2017 to September 2017.

<file:///C:/Users/paulkavanagh/Downloads/stat-stop-smok-serv-eng-q2-1718-rep.pdf>

³² West R, Hajek P, Stead L, Stapleton J. Outcome criteria in smoking cessation trials: proposal for a common standard. *Addiction*. 2005 Mar;100(3):299-303.

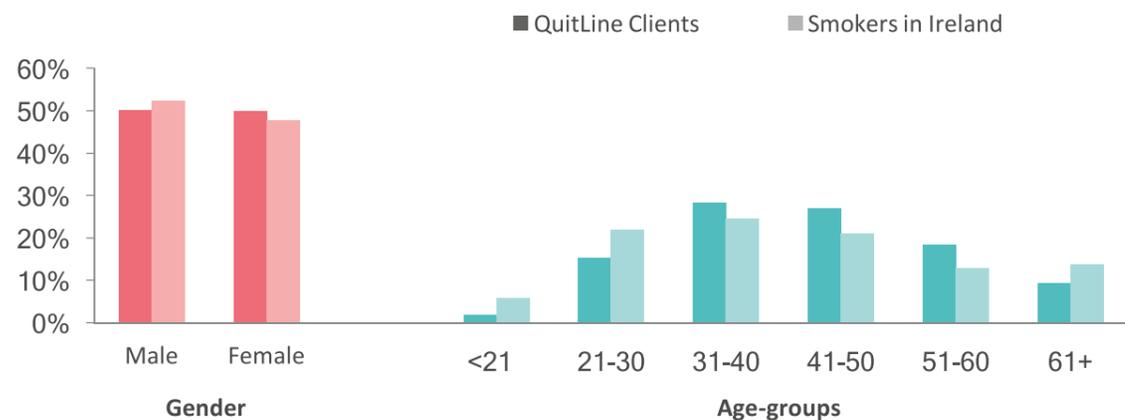
Figure 48: Monthly trend in unique clients accessing HSE telephone-based smoking cessation support, 2015-2017.



Source: HSE QUIT Line, April 2018.

The profile of users of HSE QUIT Line, as shown in Figure 49, shows 50% were male and 50% female, similar to the profile of people who smoke in Ireland; however, the age profile of users is slightly older than the age profile of people who smoke in Ireland, with three-quarters (74%) of callers aged 31 to 60 years compared to 59% of people who smoke in that age group.

Figure 49: Gender profile and age profile of clients using the HSE telephone-based smoking cessation services compared with smokers in Ireland, 2015

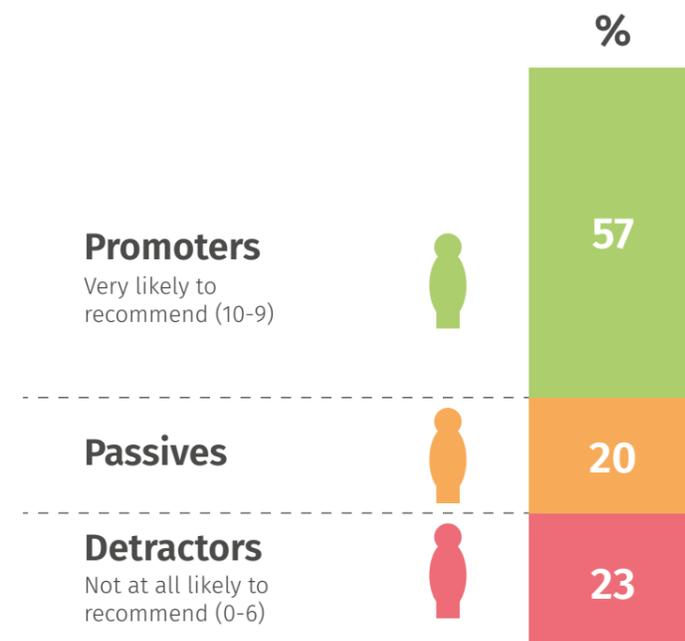


Telephone-based smoking cessation services clients 2015-2017, age-profile missing for 26% of clients

Sources: RelateCare and Healthy Ireland 2015 RMF

The HSE commissioned an evaluation of the experience of people using its telephone-based smoking cessation services in 2016. As illustrated in Figure 50, the reported experience with the service was generally very positive, shown by a Net Promoter Score of 34, with 57% of service users indicating that they were very likely to recommend the service; most of those who reported negative experience of the service were not successful in their quit attempt.

Figure 50: Report on experience of users of telephone-based smoking cessation services, 2016.



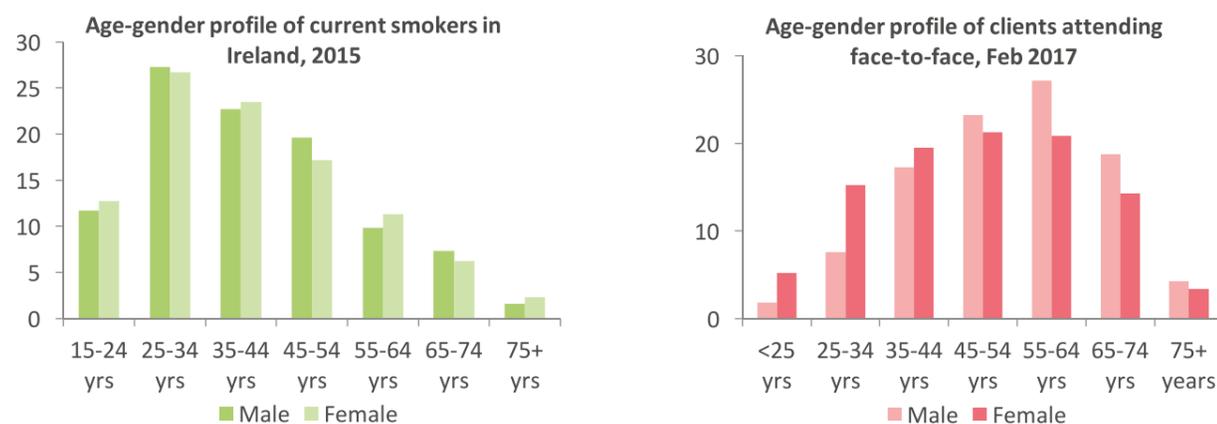
Source: Coyne Research for the HSE, 2016

4.3.3 Demand for face-to-face smoking cessation services

The HSE also offers face-to-face smoking cessation services which can be delivered one-to-one or in groups; depending on client needs and preferences, telephone-based support may also be offered. The service is offered at locations across the country and is free of charge. Smoking cessation practitioners are specially trained to support people who smoke through the quitting process and services are tailored to meet individual needs. The outcomes of services are defined and measured using the internationally recognised Russell Standard.

In 2017, to better describe the scale and complexity of smoking cessation services across the country, enhanced data was collected from both intensive and group support services during February. As illustrated in Figure 51, in total, 55% of clients were female and 45% male; the average client age was 51 years (range: 18-94 years) and female clients were younger than males (average age of 49 and 54 years respectively, t-ratio=5.49, p<0.0001).

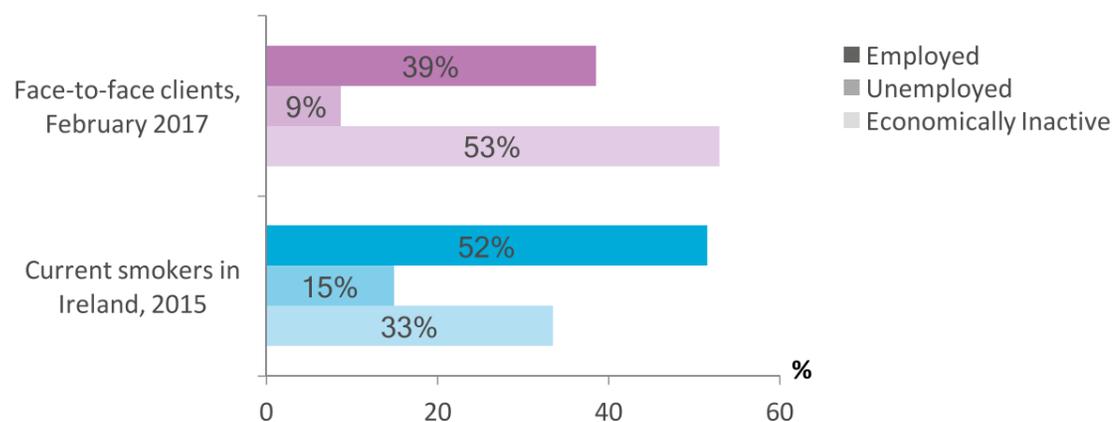
Figure 51: Age-gender profile of the clients attending face-to-face and a comparison with people who smoke in Ireland in 2015.



Sources: Enhanced data collection exercise, May 2017 and Healthy Ireland 2015 RMF

Figure 52 presents the current employment status of face-to-face clients (where known): 39% of clients were in employment, 9% currently unemployed but looking for a job, and 53% economically inactive (including being unable to work due to disability or permanent sickness). A comparison to the employment profile of people who currently smoke in 2015 is also provided, illustrating that, compared to people who smoke in general, a higher proportion of those using face-to-face smoking cessation services were economically inactive.

Figure 52: Current employment status of face-to-face clients (where known), 2017 and comparison to employment status of people who currently smoke in Ireland, 2015



Sources: Enhanced data collection exercise, May 2017 and Healthy Ireland 2015 RMF

The majority (61%) of service users held a General Practitioner (GP) visit card or a medical card, which is higher than the general population where just less than 50% hold these cards.³³

There were eight different sources of referral to the face-to-face smoking cessation service:

- Hospital services were the main referral source (53%); either as a result of a recent hospital inpatient episode (28%), or attendance at a hospital outpatient (25%) department

³³ Smyth B., Marsden P., Donohue F., Kavanagh P., Kitching A., Feely E., Collins L., Cullen L., Sheridan A., Evans D., Wright P., O'Brien S., Migone C. (2017) Planning for Health: Trends and Priorities to Inform Health Service Planning 2017. Report from the Health Service Executive.

- One in five clients (22%) had self-referred to the smoking cessation service
- One in five clients (20%) were referred by health professionals (GP, allied health professional, consultant, public health nurse)
- The remaining 5% were referred by others.

Those who self-referred to the smoking cessation services were significantly more likely to be female than male (odds ratio=3.0, 95% CI: 2.1, 4.5, p<0.0001) and have a 3rd level education (compared to other levels of education), (odds ratio=3.2, 95%CI: 2.2, 4.8, p<0.0001).

Where there was information on tobacco products used, 84% smoked manufactured cigarettes, 13% roll-your-own cigarettes, 2% cigars and 1% other tobacco products. Compared with other people who smoke, those attending the service who used hand-rolled cigarettes were significantly more likely to be male (than female) (odds ratio=3.1, 95% CI: 1.9, 5.2, p<0.0001), and aged less than 50 years (than aged 50+ years) (odds ratio=3.4, 95% CI: 2.1, 5.9, p<0.0001).

The average number of manufactured cigarettes smoked daily was 20 (range: 2 to 60). Men who smoke using the services smoked higher average number of cigarettes than females (22 versus 18, respectively, p<0.0001). The average number of roll-your-own cigarettes smoked daily was 24 (range 4 to 60).

One in five (19.5%) service users had used e-cigarettes previously; 22% of female clients had used them previously, compared to 17% of males.

As shown in Table 16, the main type of support used by service users was behavioural support and nicotine replacement therapy (NRT); 60% used this combination. A quarter used behavioural support only, while 10% used a combination of behavioural support and bupropion/varenicline, with or without NRT.

Table 16: Profile of support types provided to service users, February 2017

Type of Support provided to client	%
Behavioural support & NRT	61
Behavioural support only	25
Behavioural support & bupropion/varenicline	9
Behavioural support & NRT in combination with bupropion/varenicline	2
Other supports only	2
Unknown/Not documented	2

Source: Enhanced data collection exercise, May 2017

Compared with other service users, those using behavioural support only were significantly more likely to be younger (aged <50 years compared to those aged 50 years and older) (odds ratio=1.8, 95%CI: 1.3, 2.4, p<0.001), and referred to the smoking cessation service following a hospital encounter (compared to other sources of referral) (odds ratio=2.9, 95%CI: 2.1, 4.0, p<0.0001). Compared to other service users, those using behavioural support and bupropion/varenicline, with or without NRT, were significantly more likely to have been referred by a health professional (compared to other sources of referral) (odds ratio=1.99, 95%CI 1.3, 3.0, p<0.005).

Listed below (in no particular order) are the main areas/topics, clients were given additional support on:

- Weight management
- Physical activity
- Stress management
- Mental health supports
- Cardiovascular health and risks
- Healthy eating and nutrition
- Smoking cessation group programmes

Smoking cessation practitioners are ideally positioned to identify appropriate pathways and help signpost clients to local services and resources to meet their wider needs.

4.3.4 Building capacity of health professionals to support smoking cessation

In addition to delivering smoking cessation services, the HSE has focussed on building the capacity of health professionals to support people who smoke to quit through brief intervention (Figure 53). Evidence through the Healthy Ireland Survey indicates that there is scope for health professionals to more routinely engage with people who smoke in the course of healthcare interactions about their smoking behaviour: in 2017, 35% of people who smoke who saw their GP in the past 12 months discussed ways of quitting; 25% of those who saw a hospital doctor had this discussion, as did 22% of those who saw a nurse.

Figure 53: Brief Intervention for Smoking Cessation National Training Programme



Source: HSE Tobacco Free Ireland Programme

Brief interventions for smoking cessation involve opportunistic advice, discussion, negotiation or encouragement by health professionals with people who smoke. The framework promoted by the HSE for brief intervention is based around the “5As” model.

The “5As” model for brief intervention with people who smoke

Ask: systematically identify all people who smoke at every visit. Record smoking status, number of cigarettes smoked per day/week and year started smoking.

Advise: urge all people who smoke to quit. Advice should be clear and personalised.

Assess: determine willingness and confidence to make a quit attempt.

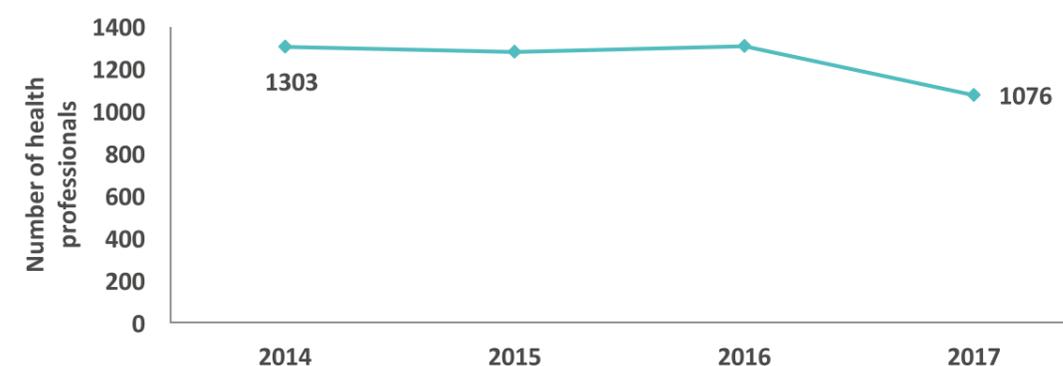
Assist: aid the person who smokes in quitting. Provide behavioural support. Recommend/prescribe pharmacological aids. If not ready to quit, promote motivation for future attempt.

Arrange: follow-up appointment within one week or if appropriate refer to specialist cessation service for intensive support. Document the intervention.

There is comprehensive and robust evidence that health professionals working with people who smoke through brief interventions in the course of healthcare interactions increases the likelihood that a person who smokes will make a quit attempt and will be effective in becoming smoke-free.^{34, 35} There is also good evidence that training health professionals in brief intervention has a measurable effect on the prevalence of smoking through developing professional performance of key care processes which support people who smoke to quit.³⁶

Brief intervention for smoking cessation training has been delivered by the HSE as part of its national service plan and tracked through targets and performance measurement since 2013, demonstrating high level commitment to this initiative. Figure 54 presents the numbers of health professionals who participated in brief intervention training delivered by the HSE 2014 to 2017. This programme is now being taken forward through the “Making Every Contact Count” framework.³⁷

Figure 54: Numbers of health professionals who participated in HSE brief intervention training per annum, 2014-2017



Source: HSE Smoking Cessation Services

34 Rice V, Heath L, Livingstone-Banks J, Hartmann-Boyce J. Nursing interventions for smoking cessation. Cochrane Database of Systematic Reviews 2017, Issue 12. Art. No.: CD001188. DOI: 10.1002/14651858.CD001188.pub5

35 Stead LF, Buitrago D, Preciado N, Sanchez G, Hartmann-Boyce J, Lancaster T. Physician advice for smoking cessation. Cochrane Database of Systematic Reviews 2013, Issue 5. Art. No.: CD000165. DOI: 10.1002/14651858.CD000165.pub4

36 Carson KV, Verbiest MEA, Crone MR, Brinn MP, Esterman AJ, Assendelft WJJ, Smith BJ. Training health professionals in smoking cessation. Cochrane Database of Systematic Reviews 2012, Issue 5. Art. No.: CD000214. DOI: 10.1002/14651858.CD000214.pub2

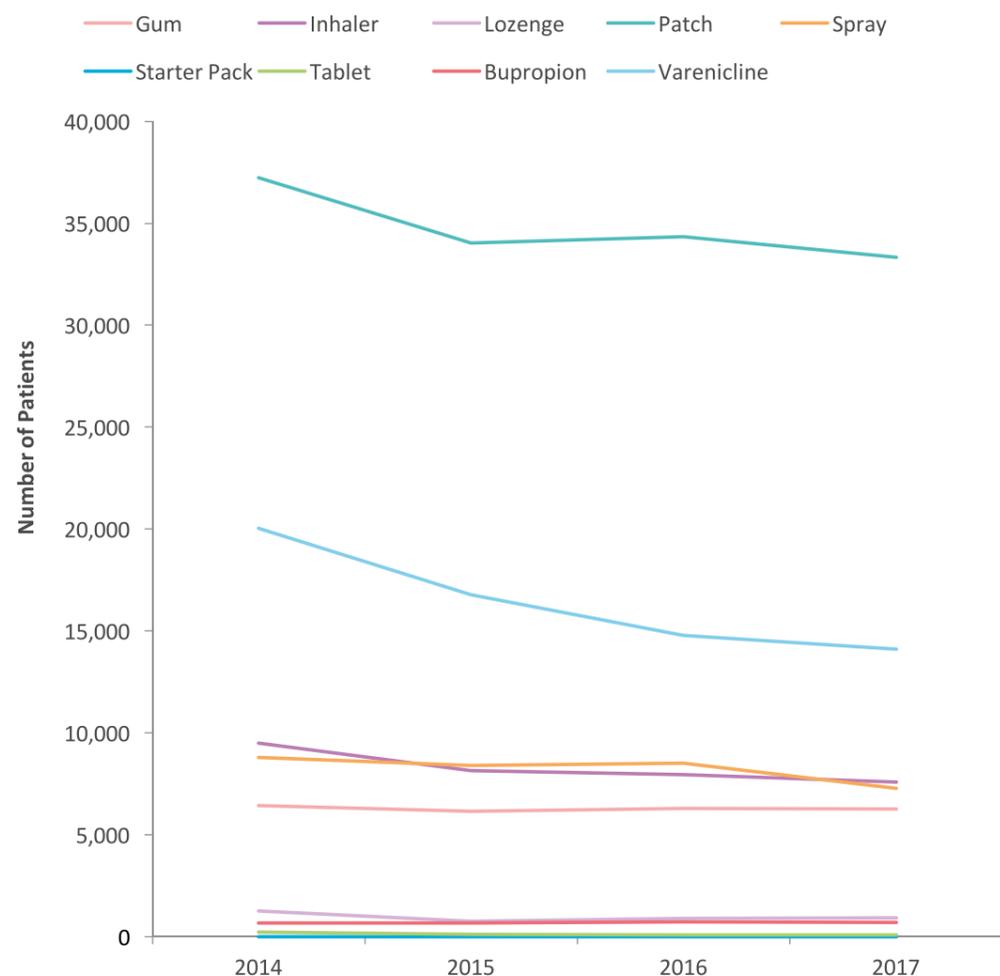
37 Health Service Executive (2016). Making Every Contact Count: A Health Behaviour Change Framework and Implementation Plan for Health Professionals in the Irish Health Service. Health Service Executive. ISBN No 978-1-78602-038-3

4.3.5 Medication-based smoking cessation support

Through its Primary Care Reimbursement Service (PCRS), the HSE provides access to medical card holders who smoke to medications that are proven effective in helping them quit. This access is free to medical card holders; a small co-payment is applicable to nicotine-replacement therapy medications, which is also subject to other prescribing controls. Furthermore, people who smoke with a medical or GP visit card benefit from free access to their primary care doctor for assessment and prescribing.

Figure 55 presents the recent trends in prescription of medication-based smoking cessation support to medical card holders. In 2017, 70,247 patients with medical cards were provided with nicotine replacement therapy and 14,806 were provided with bupropion or varenicline; this is equivalent to 169 and 36 per 1,000 people who smoke (with full medical card), respectively. Over the period, dispensing of bupropion and varenicline remained low and dispensing of nicotine replacement products has declined.

Figure 55: Trends in redemption of prescriptions for nicotine replacement therapy (various forms) and other smoking cessation products by Medical Card holders, 2014 to 2017



Source: Primary Care Reimbursement Service (PCRS), April 2018 by request

4.4 Protecting people from tobacco smoke

Tobacco free campuses and smoking bans – the evidence

Exposure to second-hand cigarette smoke in the environment is harmful to health.³⁸ Creating a smoke-free environment through policy or legislation for a specific setting can help protect people from the harmful effects of second-hand smoke, leading to improved health outcomes, including reduction in smoking-related disease and death. It also de-normalises smoking behaviour, prevents smoking initiation and makes it easier for people who smoke to quit and stay smoke-free. The effectiveness of institutional bans on smoking (sometimes known as tobacco free campuses) and legislative bans on smoking in specific settings has been extensively studied. Institutional bans on smoking have been shown to be effective in hospitals and universities; for example, in hospitals, the prevalence of active smoking rates was significantly reduced in staff by almost 30% (risk ratio (RR) 0.71, 95% confidence interval (CI) 0.64 to 0.78) and in patients by 15% (RR 0.86, 95% CI 0.76 to 0.98).³⁹ There is also robust evidence to support that legislative smoking bans lead to improved health outcomes, for example, through reduced admissions for acute coronary syndrome and reduced mortality from smoking-related illnesses.⁴⁰ In Ireland, following the implementation of legislation to make workplaces smoke free, a 12% reduction in admissions for acute myocardial syndromes was observed;⁴¹ an immediate 13% decrease in all-cause mortality (RR: 0.87; 95% CI: 0.76–0.99), a 26% reduction in ischemic heart disease (IHD) (RR: 0.74; 95% CI: 0.63–0.88), a 32% reduction in stroke (RR: 0.68; 95% CI: 0.54–0.85), and a 38% reduction in chronic obstructive pulmonary disease (COPD) (RR: 0.62; 95% CI: 0.46–0.83) mortality was also observed.⁴²

In addition to building and enforcing compliance with legislative smoking bans in Ireland, to protect staff, service users and visitors from the harmful effects of tobacco smoke, the HSE adopted an official corporate Tobacco Free Campus Policy in 2012.⁴³ The development of the policy benefitted from strong leadership commitment at the level of the HSE CEO and Leadership Team. A consultative process with staff was led by Human Resources to engage staff, assess their support and ensure legislative requirements for protecting staff health were observed. A challenge to the policy based on concerns about interference with staff rights to smoke at work was unsuccessful in the Labour Court, affirming the importance of tobacco free campus policies in promoting health and protecting the interests of staff and service users.

The policy is designed in line with international standards developed by the Global Network for Tobacco Free Healthcare Services,⁴⁴ and it has two clear aims: to treat tobacco as a healthcare issue; and to de-normalise

38 U.S. National Cancer Institute and World Health Organization. Health Effects of Exposure to Environmental Tobacco Smoke. National Cancer Institute Tobacco Control Monograph

10. NIH Publication 1999. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute.

39 Frazer K, McHugh J, Callinan JE, Kelleher C. Impact of institutional smoking bans on reducing harms and secondhand smoke exposure. Cochrane Database Syst Rev. 2016 May 27;(5):CD011856. doi: 10.1002/14651858.CD011856.pub2

40 Frazer K, Callinan JE, McHugh J, van Baarsel S, Clarke A, Doherty K, Kelleher C. Legislative smoking bans for reducing harms from second-hand smoke exposure, smoking prevalence and tobacco consumption. Cochrane Database Syst Rev. 2016 Feb 4;2:CD005992. doi: 10.1002/14651858.CD005992.pub3

41 Cronin EM, Kearney PM, Kearney PP, Sullivan P, Perry IJ; Coronary Heart Attack Ireland Registry (CHAIR) Working Group. Impact of a national smoking ban on hospital admission for acute coronary syndromes: a longitudinal study. Clin Cardiol. 2012 Apr;35(4):205-9.

42 Stallings-Smith S, Zeka A, Goodman P, Kabir Z, Clancy L (2013) Reductions in Cardiovascular, Cerebrovascular, and Respiratory Mortality following the National Irish Smoking Ban: Interrupted Time-Series Analysis. PLoS ONE 8(4): e62063. <https://doi.org/10.1371/journal.pone.0062063>

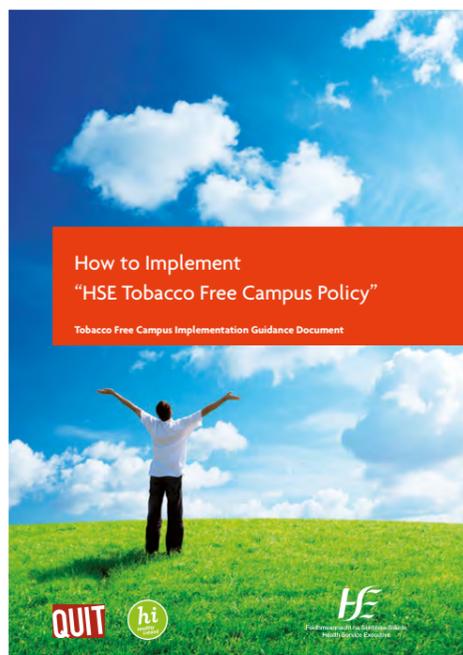
43 Health Service Executive. National Tobacco Free Campus Policy. 2012.

<https://www.hse.ie/eng/staff/resources/hrppg/national-tobacco-free-campus-policy---april-2012.pdf>

44 Global Network for Tobacco Free Healthcare Services. <http://www.tobaccofreehealthcare.org/>

tobacco use in all healthcare services and settings. It assigns roles and responsibilities at every level throughout Health and Social Services and the procedures to be followed to achieve a tobacco free campus. A comprehensive toolkit has been developed to support the policy and to enable services to take practical and achievable steps to embed change (Figure 56).⁴⁵ Service managers across Acute and Community (Primary Care, Mental Health and Social Care) services have been supported to implement the policy through two national conferences, onsite visits and a series of regional workshops and staff training events between 2012 and 2017. Community Health Organisation and Hospital Group Healthy Ireland Implementation Plans now provide the framework to further progress tobacco free campuses.

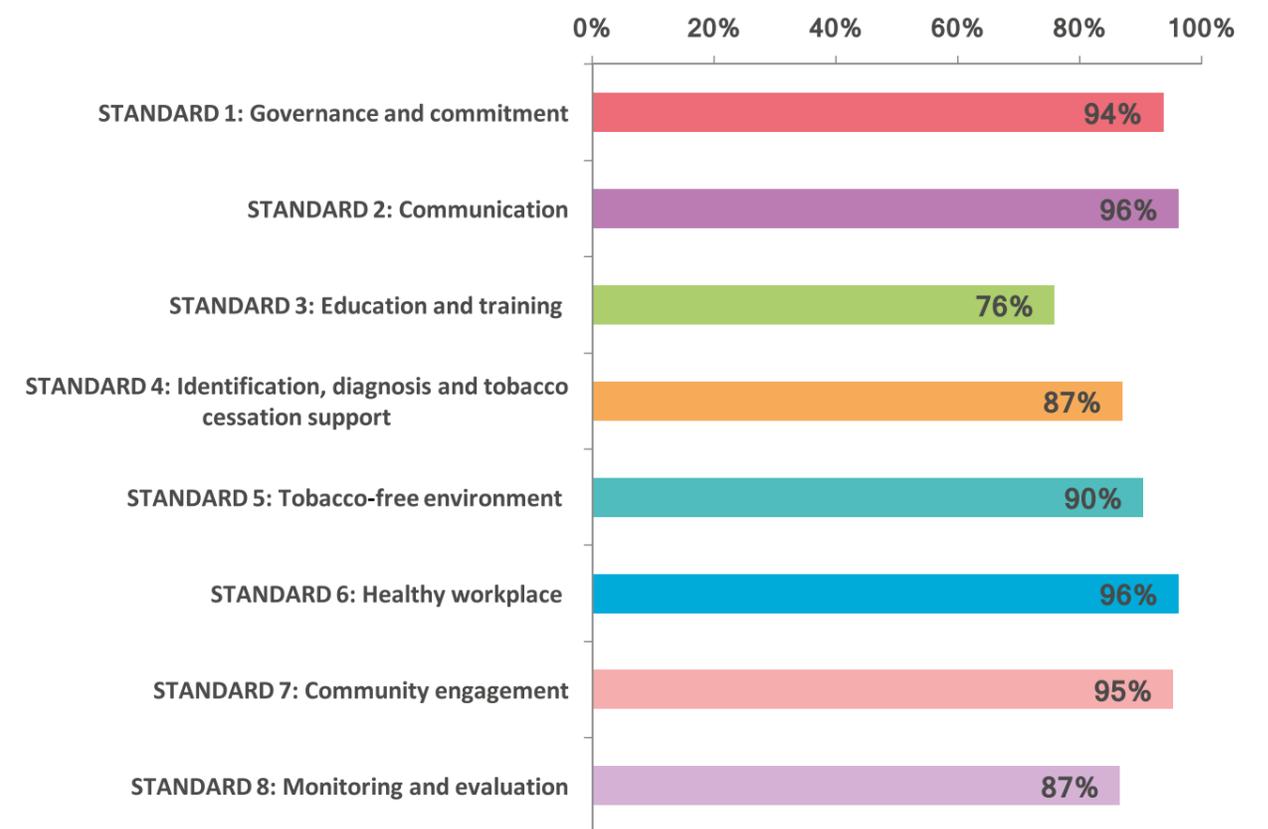
Figure 56: HSE Tobacco Free Campus Toolkit



Source: HSE Tobacco Free Ireland Programme

Some HSE Health Services use self-assessment against the Global Network for Tobacco Free Healthcare Services standards to verify progress with tobacco free campus implementation. Figure 57 presents average aggregate scores for nine participating hospitals, demonstrating strong compliance across the eight standards, and pointing to a need to ensure a continuing focus on the education and training of staff to champion tobacco free campus policy and, in the case of clinical staff, to identify and provide cessation support to service users who smoke.

Figure 57: Average aggregate scores for hospitals participating in the Global Network for Tobacco Free Healthcare Services 2016-2018



Source: HSE Tobacco Free Ireland Programme

⁴⁵ Health Services Executive. How to Implement "HSE Tobacco Free Campus Policy" - Tobacco Free Campus Implementation Guidance Document. <https://www.hse.ie/eng/about/who/tobaccocontrol/campus/tobacco-free-campus-toolkit-guidance-document-oct-16.pdf>

5. What have we learned about the State of Tobacco Control in Ireland and what next?

5.1 Tracking progress and counting the continuing toll

Over 50 years have passed since the US Surgeon General and UK Royal College of Physicians published landmark reports establishing the health consequences of smoking, heralding global action to protect public health through tobacco control.^{46, 47} This *State of Tobacco Control Report* tracks the progress which has been made in protecting public health in Ireland through a comprehensive, evidence-based and internationally benchmarked tobacco control framework, which the HSE supports through its *Tobacco Free Ireland Programme*.

Like most other developed countries, smoking is becoming less common in Ireland.^{48, 49} For example, between 1980 and 2012, the estimated age-standardised global prevalence of daily tobacco smoking declined by 0.9% and 1.7% per year for men and women respectively; progress in reducing smoking prevalence was greatest in the middle of this period, with rate of decline slowing latterly. Findings in this report confirm that smoking has continued to decline in Ireland; however, it points to a rate of decline which means that a *Tobacco Free Ireland* may be some decades off.

Despite progress, the continuing toll on public health in Ireland from smoking and second-hand smoke detailed in this report is stark: over 100 deaths and over 1,000 hospital episodes each week in Ireland. Put simply, tobacco control is the single greatest opportunity to protect and improve the public's health. As illustrated in Table 17, while the public health burden of tobacco use in Ireland has reduced, it remains the leading preventable cause of ill-health, disability and premature mortality.⁵⁰

Table 17: Top 10 risks contributing to DALYs, Ireland 2016, and % change, 2005-2016, all ages

	2005 ranking	2016 ranking	% change 2005 – 2016
1	Tobacco	Tobacco	-7.6%
2	Dietary risks	Alcohol & drug use	-5.0%
3	Alcohol & drug use	Dietary risks	-6.8%
4	High blood pressure	High blood pressure	-7.7%
5	High body-mass index	High body-mass index	7.8%
6	High fasting plasma glucose	High fasting plasma glucose	5.4%
7	High total cholesterol	High total cholesterol	-11.1%
8	Occupational risks	Occupational risks	7.2%
9	Air pollution	Impaired kidney function	2.3%
10	Impaired kidney function	Air pollution	-9.6%

Source: Institute for Health Metrics and Evaluation. The disability-adjusted life year (DALY) is a measure of overall disease burden, expressed as the number of years lost due to ill-health, disability or early death. It was developed in the 1990s as a way of comparing the overall health and life expectancy of different countries.

46 National Center for Chronic Disease Prevention and Health Promotion (US) Office on Smoking and Health. The Health Consequences of Smoking—50 Years of Progress. A Report of the Surgeon General. Atlanta (GA): Centers for Disease Control and Prevention (US); 2014.

47 Royal College of Physicians. (accessed Feb 3, 2017) Smoking and health. A report on smoking in relation to lung cancer and other diseases. Royal College of Physicians, London; 1962

48 Ng M, Freeman MK, Fleming TD, et al. Smoking prevalence and cigarette consumption in 187 countries, 1980-2012. *JAMA* 2014;311:183-92.

49 Reitsma, Marissa B et al. Smoking prevalence and attributable disease burden in 195 countries and territories, 1990-2015: a systematic analysis from the Global Burden of Disease Study 2015. *The Lancet*, Volume 389, Issue 10082, 1885 - 1906

50 Institute for Health Metrics and Evaluation. Global Burden of Disease – Ireland Profile. <http://www.healthdata.org/ireland> Last accessed 24th of April, 2018.

5.2 Delivering evidence-based and impactful control activities

The HSE is responsible for advancing many of the tobacco control actions set out in government policy. For the first time, this report collates information to describe the scale and impact of the HSE role in tobacco control (Table 18).

Table 18: An average working day in the HSE Tobacco Free Ireland Programme

Activity	Scale*
Responses to queries and complaints about tobacco control	10
Inspections and test purchases with minors to ensure compliance with tobacco control legislation	60
People who smoke supported with online information	1,000
People who smoke enabled to sign up online to a quit plan	60
People who smoke provided with intensive smoking cessation support	50
People who smoke with a medical card provided with medication-based support	330
People who smoke using intensive support who became smoke free	1-in-2

*per working day, rounded

Source: HSE Environmental Health Services, Communications, QUIT Line and Smoking Cessation Services.

The HSE Environmental Health Services lead on the enforcement of a broad suite of legislation to control the impact of tobacco on the public's health; the scope of its activity is growing significantly through the Tobacco Products Directive. Its role is truly comprehensive since it addresses demand, supply, exposure to and normalisation of tobacco use. It supervises over 20,000 registrations of retail outlets supplying tobacco products; it conducts over 300 inspections and over 10 test purchases with minors nationally each week. Compliance is high, however, in 2017 successful prosecution was required in 17 cases to address non-compliance.

Public communication is the foundation of tobacco control and, in recent years, the HSE has delivered a number of successful mass media campaigns which have warned people about the dangers of smoking and signposted people who smoke to cessation services. In its most recent campaign the achievement of the significant milestone of quitters outnumbering people who smoke in Ireland was acknowledged. In 2017 there were approximately 300 Quit.ie website sessions and 20 Quit Plan sign ups per 1,000 people who smoke. HSE mass media campaigns, increasingly supported by the use of online and social media, have had a demonstrable impact on people who smoke and their demand for cessation services and represent good value for money.

It's a false assumption that people who smoke are content in their habit, since 6 in 10 want to quit and 1 in 2 make quit attempts each year. Free, accessible and effective cessation services are provided by the HSE nationwide, with options that can be tailored to the preferences and needs of people who smoke. In 2017, 14 per 1,000 people who smoke entered intensive smoking cessation services. Critically, these evidence-based services work. Of those who enter the standard treatment programme with HSE services and set a quit date 1 in 2 are smoke-free after one month.

Through its Tobacco Free Campus policy, the HSE protects patients and staff from the impact of second-hand smoke and creates an environment where it's easier for people who smoke to quit. As the nation's biggest employer and principle provider of health and social care services, the HSE provides strong leadership and a positive example of how organisations can extend the scope of legislative bans to help protect the public, de-normalise smoking and help build a tobacco free future for everyone.

Partnership have made a significant contribution to the role of the HSE in tobacco control. Through regular

engagement and a partners forum with other organisations working on tobacco control in Ireland, respective efforts are coordinated for maximum impact.

5.3 A rising tide lifts all boats?

In marking significant progress and describing the scope of the HSE's role, this *State of Tobacco Control Report* raises important questions about the differential impact of the tobacco epidemic on different population groups – is a rising tide lifting all boats?

In common with most other developed countries, smoking has traditionally been more common among men than women. This continues to be the case in Ireland. Both boys and girls appear to have benefited equally from reductions in youth smoking. However, this reports signposts a need to ensure that tobacco control takes appropriate account of the differing needs of men and women. For example, across most age groups, the recent rate of reduction in smoking prevalence in males is slower; men who smoke are more likely to be engaged in other risky health behaviour; males experience a greater toll of smoking-related death and hospitalisations; and the use of smoking cessation services to quit is lower among males. On the other hand, for example, occasional smoking among younger women stands out as an area of particular concern in this report; and an increasing incidence of lung cancer among women has previously been reported in Ireland.⁵¹ These differences are largely explained by a difference in how the history of the tobacco epidemic has been experienced by men and women. Compared with males, smoking in most developed countries became prevalent among females late in the 20th century, and the stages of the tobacco epidemic in terms of the rise and fall in smoking prevalence and smoking-related burden of disease can be expected to unfold differently too.⁵² Internationally, evidence in relation to gender differences in the use and impact of smoking cessation services is mixed;⁵³ however, the findings in this report support the need to ensure that tobacco control is planned and delivered in a way which is responsive to the needs of men and women,⁵⁴ and opportunities arising from the new strategic focus on men and women's health in Ireland should be identified.^{55,56}

Other differences identified in this *State of Tobacco Control Report* are consistent with a large body of international evidence demonstrating a strong and consistent link between smoking behaviour, including quitting, and different measures of socioeconomic status such as education, income, and occupational class; put simply, differences in smoking behaviour are the leading cause of inequalities in health across society.⁵⁷ Based on analysis of Irish data, it is proposed that these differences stem largely from the deprivation and disadvantage experienced by people with lower socioeconomic status.⁵⁸ The impact is stark; it is been estimated, for example, that half of the difference in mortality between the highest and lowest social strata is due to differences in smoking behaviour.⁵⁹ There are wider implications, since tobacco use perpetuates poverty, reduces social mobility and, as society becomes increasingly tobacco free, contributes to social exclusion. While the prevalence of smoking among children in different social classes is similar in Ireland, early life exposure to

51 O'Brien K, Walsh P, Deady S, McDevitt J. Cancer Trends 27 - Lung cancer. National Cancer Registry of Ireland, 2015.

52 Thun M, Peto R, Boreham J, et al Stages of the cigarette epidemic on entering its second century Tobacco Control 2012;21:96-101.

53 Smith PH, Bessette AJ, Weinberger AH, Sheffer CE, McKee SA. Sex/gender differences in smoking cessation: A review. Prev Med. 2016 Nov; 92: 135-140

54 Bottorff JL et al. Gender, smoking and tobacco reduction and cessation: a scoping review International Journal for Equity in Health, 2014; 13(1).

55 Health Service Executive. Healthy Ireland – Men, 2017-2021. Dublin, 2016.

56 Department of Justice and Equality. National Strategy for Women and Girls 2017-2020: creating a better society for all. Dublin, 2017.

57 Jarvis M, Wardle J. Social patterning of individual health behaviours: the case of cigarette smoking. In: Marmot M, Wilkinson R, eds. Social Determinants of Health. 2nd edn. Oxford: Oxford University Press, 2003:225-37

58 Layte R, Whelan CT. Explaining Social Class Inequalities in Smoking: The Role of Education, Self-Efficacy, and Deprivation. European Sociological Review, Volume 25, Issue 4, 1 August 2009, Pages 399-410

59 Jha, P et al. Social inequalities in male mortality, and in male mortality from smoking: indirect estimation from national death rates in England and Wales, Poland, and North America

smoking is greatest among children born to mothers of lower socioeconomic status. Positively, the report points to aspects of tobacco control which may impact to reduce these differences; for example, the reach of intensive smoking cessation services and access to medication-based supports for people who smoke with medical cards. Nevertheless, it is critical that tobacco control is planned, delivered and monitored to ensure that the potential for a positive impact on health inequalities is maximised.⁶⁰

This report also highlights the need to consider other differences in how the tobacco epidemic impacts across the population.

To date, while there has been some population-based data on the experience of smoking among people with mental health problems in Ireland,⁶¹ the issue is poorly described and receives little attention. This report identifies a wide gap in smoking behaviour by mental health status: people with a probable mental health problem were 1.6 times more likely to be a person who currently smokes than people without a probable mental health problem. The well-established relationship between smoking and mental health is complex, with evidence indicating that mental health increases the risk of becoming a person who smokes as well as confirming that smoking is injurious to mental health.⁶² Smoking explains much of the poor physical health experience of people with mental health problems, who on average die 10-20 years earlier than the general population; however, people with mental health problems who smoke express as much interest in quitting as the general population and can successfully quit, underlining the importance of mental health services and tobacco control working together with this population to address their needs.⁶³

5.4 Maintaining control of a changing epidemic

While measurable progress is described in this *State of Tobacco Control Report*, a changing face to the tobacco epidemic is becoming clear.

Declining youth smoking is welcome and a range of measures that have warned about the dangers, denormalised tobacco use and limited access have positively impacted the problem.⁶⁴ This marks significant progress since the younger youth are when they start using tobacco, the more likely they are to become addicted and to accumulate a greater lifetime exposure to smoking, leading to an especially heavy burden of smoking related disease.⁶⁵ However, across age groups, smoking is now most common among young adults, suggesting that the age of smoking initiation is increasing in Ireland. This is an emerging feature to the tobacco control challenge facing many developed countries and means that tactics which have served well in stemming smoking initiation in early life may need to be complemented with other approaches that better address the needs of young adults.^{66,67}

Coupled with this is the feature of occasional smoking, particularly among younger people who smoke. As described through this report, the socio-demographic profile of occasional smoking suggests it is a distinct

60 Hill S, Amos A, Clifford D, et al Impact of tobacco control interventions on socioeconomic inequalities in smoking: review of the evidence Tobacco Control 2014;23:e89-e97.

61 Burns A, Strawbridge JD, Clancy L, Doyle F. Exploring smoking, mental health and smoking-related disease in a nationally representative sample of older adults in Ireland – A retrospective secondary analysis. Journal of Psychosomatic Research. 2017;98:78-86.

62 Royal College of Physicians, Royal College of Psychiatrists. Smoking and mental health. London: RCP, 2013.

63 ASH. The Stolen year. London, 2016.

64 Li S, Keogan S, Taylor K, et al Decline of adolescent smoking in Ireland 1995-2015: trend analysis and associated factors BMJ Open 2018;8:e020708

65 U.S. Department of Health and Human Services. Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2012.

66 Hammond D Smoking behaviour among young adults: beyond youth prevention Tobacco Control 2005;14:181-185.

67 Biener L, Albers AB. Young adults: vulnerable new targets of tobacco marketing. Am J Public Health. 2004 Feb;94(2):326-30.

phenomenon to daily smoking. Occasional smoking, which includes what is sometimes referred to as “social” smoking, is a well-recognised emerging trend in the tobacco epidemic,⁶⁸ and research points out that the tobacco industry have been effective in growing this market through leveraging particular characteristics of this group, including denial of addiction and perceived immunity to the health impacts of their smoking behaviour.⁶⁹ Nevertheless, the health impacts of occasional smoking are well established and remain significant even compared with daily smoking;⁷⁰ furthermore, follow-up studies confirm that many people who occasionally smoke persist in occasional smoking or become people who smoke daily.^{71 72 73} This a feature which we cannot afford to overlook.

Finally, consumption of “Roll-Your-Own” (RYO) tobacco products is becoming more common among people who smoke in Ireland, as highlighted in a recent report by the HSE.⁷⁴ This finding is consistent with international experience,⁷⁵ and points to a need to ensure taxation policy and public health communication addresses the price and perceived health advantage of these products.

5.5 Bringing Ireland to the endgame – is business-as-usual enough?

Through current government policy, *Tobacco Free Ireland*, a commitment has been made to move to an endgame by “permanently eliminating the structural, political and social dynamics that sustain the tobacco epidemic, in order to end it within a specific time.”⁷⁶ Ireland is taking a step-change and moving from tobacco control to tobacco elimination.

As described in this *State of Tobacco Control Report*, good progress has been made in tackling harm caused by tobacco and Ireland’s efforts continue to receive a high ranking compared with other European countries.⁷⁷ The World Health Organization’s most recent report on Ireland’s progress identified strong performance across the elements of its MPOWER model:⁷⁸ recent, representative and periodic data on smoking prevalence for both adults and youth is available; policies on smoke-free public places are in place; a broad range of services are in place and accessible to support smoking cessation; health warnings are in place on tobacco product packaging and national mass media campaigns are in place warning about their harms; bans on advertising are in place; and a high percentage of the retail price of tobacco products is tax.

It’s important to acknowledge that business-as-usual is serving tobacco control in Ireland well, but is it enough to affect the step change required to move to the endgame?

This *State of Tobacco Control Report* points to opportunities to further develop and strengthen the HSE’s role in tobacco control.

68 Schane RE, Glantz SA, Ling PM. Nondaily and social smoking: an increasingly prevalent pattern Arch Intern Med. 2009 Oct 26;169(19):1742-4.

69 Schane RE, Glantz SA, Ling PM. Social smoking implications for public health, clinical practice, and intervention research. Am J Prev Med. 2009 Aug;37(2):124-31

70 Schane RE1, Ling PM, Glantz SA. Health effects of light and intermittent smoking: a review. Circulation. 2010 Apr 6;121(13):1518-22.

71 Robertson L, Iosua E, McGee R, Hancox RJ. Nondaily, Low-Rate Daily, and High-Rate Daily Smoking in Young Adults: A 17-Year Follow-Up. Nicotine Tob Res. 2016 May;18(5):943-9.

72 Lindström M, Isacson S, Long term and transitional intermittent smokers: a longitudinal study Tobacco Control 2002;11:61-67.

73 Kvaavik E, von Soest T, Pedersen W. Nondaily smoking: a population-based, longitudinal study of stability and predictors. BMC Public Health. 2014 Feb 5;14:123.

74 Evans D, O’Farrell A, Hickey P. Roll Your Own Cigarettes in Ireland. Health Service Executive 2017.

75 Brown AK, Nagelhout GE, van den Putte B, et al Trends and socioeconomic differences in roll-your-own tobacco use: findings from the ITC Europe Surveys Tobacco Control 2015;24:iii11-iii16.

76 McDaniel PA, Smith EA, Malone RE The tobacco endgame: a qualitative review and synthesis Tobacco Control 2016;25:594-604.

77 Joossens L, Raw M. Tobacco control scale in Europe 2016 – A report of the Association of European Cancer Leagues. www.tobaccocontrolscale.org. 2017.

78 World Health Organization. WHO report on the global tobacco epidemic, 2017: Country profile, Ireland. WHO, Geneva; 2017.

Building and enforcing compliance with legislation

The HSE Environmental Health Services have been effective in building and maintaining compliance with a broad suite of tobacco control legislation; an immediate challenge is to ensure a response to the new requirements of the Tobacco Products Directive which delivers further public protection. Leveraging the role of the public in identifying and raising concerns regarding non-compliance is an opportunity to ensure a risk-based approach to regulating tobacco control legislation. How many people have observed something that caused concern but didn’t know where to raise it? The role of the Environmental Health Services has been instrumental in much of the recent progress in tobacco control in Ireland, especially preventing youth initiation. However, tobacco continues to be sold as a normal product at a significant scale across Ireland. Albeit compliance with test purchase activity is high, maximising compliance building through the education of retailers in conjunction with enforcement offers an opportunity to further stem initiation in minors.

Communicating and engaging with the public

This report describes successful engagement with large numbers of people who smoke by the HSE through mass media; many access HSE internet and social media based smoking cessation support. Success in tobacco control, however, creates a challenge, since reducing the numbers of people who smoke becomes harder to reach through mass media; in addition, the media landscape and public engagement with media is evolving, growing more diverse and complex, so reaching people who smoke is becoming more difficult. The public’s trust and engagement with sources of information is also shifting, and promoting health in a “post-truth” world must take account of this.⁷⁹ Continuing to ensure sufficient population exposure to mass media and applying theory-driven design will remain critical to success.⁸⁰ There is no consistent evidence that the impact of mass media campaigns in tobacco control differs by gender and age group.⁸¹ However, differences exist in attitudes and behaviours to healthcare seeking across population groups, especially preventative self-care.⁸² Findings in this report point to the continuing need to ensure that different population groups are carefully and critically considered in public communication for tobacco control.⁸³

Providing support to quit

The HSE leads the provision of services supporting people who smoke to quit through a range of evidence-based and effective offerings tailored to the preferences and needs of the individual. In many countries this has traditionally been a relatively underdeveloped aspect of tobacco control.⁸⁴ A cross-country comparative study conducted 10 years ago found that quitting behaviour among Irish people who smoke was high; however the reported experience from people who smoke of engagement by a health professional regarding their smoking behaviour was low, as was the use of supports including medications, QUIT Line and specialist services.⁸⁵ The landscape of smoking cessation services has changed dramatically for the better since that study. While the reach of services has grown, there is a need to continue to promote them and to remove access barriers to

79 Sparks M. Promoting health in a post-truth world. Health Promot Int. 2017 Aug 1;32(4):599-602.

80 Langley T1, Lewis S, McNeill A, Gilmore A, Szatkowski L, West R, Sims M. Characterizing tobacco control mass media campaigns in England. Addiction. 2013 Nov;108(11):2001-8. doi: 10.1111/add.12293. Epub 2013 Aug 14.

81 Bala M, Strzeszynski L, Cahill K. Mass media interventions for smoking cessation in adults. Cochrane Database System Rev 2008; (1):CD004704.

82 Ryan A, Wilson S, Taylor A, Greenfield S. Factors associated with self-care activities among adults in the United Kingdom: a systematic review. BMC Public Health (Open Access). 2009; 9: 96.

83 Durkin S, Brennan E, Wakefield M Mass media campaigns to promote smoking cessation among adults: an integrative review Tobacco Control 2012;21:127-138.

84 Nilan K, Raw M, McKeever TM, Murray RL, McNeill A. Progress in implementation of WHO FCTC Article 14 and its guidelines: a survey of tobacco dependence treatment provision in 142 countries. Addiction (Abingdon, England). 2017;112(11):2023-2031.

85 Borland R, Li L, Driezen P, et al. Cessation assistance reported by smokers in 15 countries participating in the International Tobacco Control (ITC) policy evaluation surveys. Addiction (Abingdon, England). 2012;107(1):197-205.

ensure that as many people who smoke as possible interested in quitting benefit from effective services that maximise the likelihood that they become smoke-free. The HSE is planning a set of interlinked initiatives which will strategically develop smoking cessation services in Ireland: “*Making Every Contact Count*” will develop the capability of all healthcare professionals to identify and address the health behaviour needs of people using health services, including smoking; an electronic patient management system is being implemented to enable and track referral to smoking cessation services and to more closely monitor activity and outcomes. National clinical guidelines are in development, leveraging a recent health technology assessment conducted by the Health Information and Quality Authority, which will strengthen the model of care and clarify clinical pathways for quitters. Trends in the use of medication-based support require attention. Price can be a significant barrier to the use of cessation services.⁸⁶ While HSE telephone and face-to-face services are free of charge, out-of-pocket payments may act as a constraining factor on the use of medication-based support. Special dispensing arrangements for nicotine replacement therapy on the General Medical Services (GMS) scheme, its exclusion from Drugs Payment Scheme (DPS) reimbursement, and limited nurse-led prescribing need to be addressed. Furthermore, many people who smoke face fees with a primary care practitioner for consultation and the prescription of medication-based supports. Examination of these barriers and incentives in the context of implementing a model of chronic disease prevention and management through the new GP contract is required. Cessation services for women who smoke in pregnancy and for people with mental health problems require special attention.

Taxation and pricing

Strong taxation and pricing policy is central to business-as-usual tobacco control since it is the single most effective measure to control tobacco consumption in any country.

Taxation and pricing policy for tobacco control – the evidence

Changing the price of a good or service impacts consumption. This concept is referred to as price elasticity of demand. There is a comprehensive and robust evidence base which shows consistently that increasing the price of tobacco products through taxation reduces consumption, meaning that excise tax and the price of tobacco products is the single most effective tobacco control measure available in any country.^{87,88} In general, internationally, a 10% increase in the price of tobacco is expected to decrease consumption by 4-5%. Tobacco consumption by young people is generally more responsive to changes in taxes and prices of tobacco products than older people. Irish research has confirmed that increasing the price reduces tobacco product consumption in Ireland, and has also signposted the importance of ensuring that pricing policy is applied in conjunction with measures to control tax avoidance and evasion to ensure the public health benefit is maximised.⁸⁹

Figure 58 presents the tax content of the most popular price category (MPPC) of a pack of 20 cigarettes following each of the past sixteen budgets in Ireland.⁹⁰ There has been a relative increase of 94.6% in the tax content of the MPPC over the period. Compared to other EU countries, taking account of differences in purchasing power,

86 U.S. National Cancer Institute and World Health Organization. The Economics of Tobacco and Tobacco Control. National Cancer Institute Tobacco Control Monograph 21. NIH Publication No. 16-CA-8029A. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute; and Geneva, CH: World Health Organization; 2016.

87 International Agency for Research on Cancer. Effectiveness of tax and price policies for tobacco control. IARC handbooks of cancer prevention: tobacco control, Vol. 14. Lyon, France: International Agency for Research on Cancer; 2011.

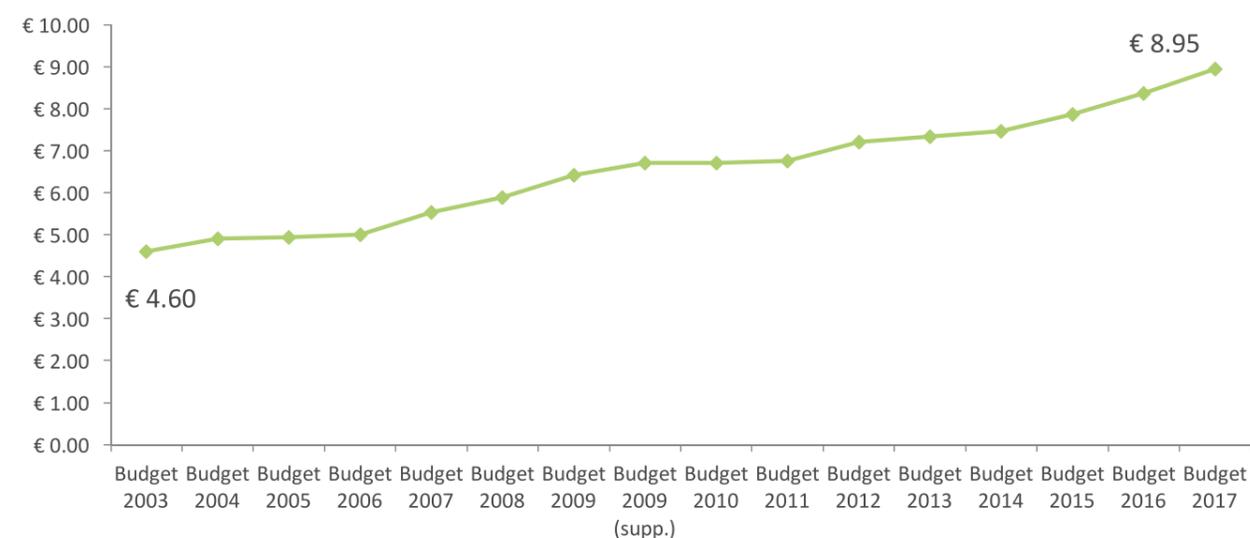
88 U.S. National Cancer Institute and World Health Organization. The Economics of Tobacco and Tobacco Control. National Cancer Institute Tobacco Control Monograph 21. NIH Publication No. 16-CA-8029A. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute; and Geneva, CH: World Health Organization; 2016

89 Chaloupka FJ and TaurasJA. The Demand for Cigarettes in Ireland. Dublin, National Office for Tobacco Control, 2011. <https://www.hse.ie/eng/health/hl/change/quit/demandforcigarettes2011.pdf>

90 Department of Finance. General Excise Paper - Tobacco Products Tax, Alcohol Products Tax and Betting Duty. Tax Strategy Group – TSG 17/07

the Irish price level for tobacco was 89% above the EU28 average and roughly twice the Eurozone 19 average in 2015.⁹¹ However, these trends relate to price and are not fully reflective of the affordability of cigarettes relative to income. Affordability-based policy-making is recommended as a more useful approach to tobacco control, especially in countries like Ireland where there are rapid changes in economic conditions.⁹² Regarding the structuring of taxation and pricing to control tobacco use, the World Health Organization recommends at least 70% excise tax share in final consumer price and that tax increases exceed increases in consumer prices and incomes; however, it’s most recent report on tobacco control in Ireland highlighted that, despite the positive trend illustrated in Figure 58, less than 60% of the tax on the most sold brand of cigarettes was excise (specific excise and ad valorem excise, albeit total tax as a proportion of retail price was high at approximately 80%) and there has been no change in the affordability of cigarettes since 2008.⁹³ This is a significant opportunity for tobacco control foregone. Besides its powerful impact, pricing and taxation are instrumental in addressing social class inequalities in smoking behaviour.⁹⁴ Furthermore, findings from a cross-European survey on public attitudes to pricing and taxation for tobacco control show support is high, including among people who currently smoke, especially where revenue is aligned with continuing efforts to prevent smoking initiation and support quitting; in fact, attitudes among Irish respondents were generally more positive than most of their European counterparts.⁹⁵

Figure 58: The tax content of the most popular price category of a pack of 20 cigarettes following each of the past sixteen budgets 2003-2017.



Source: Department of Finance

91 Central Statistics Organisation. Comparative Price Levels for Food, Beverages and Tobacco. 2015. http://pdf.cso.ie/www/pdf/20160701023812_Comparative_Price_Levels_for_Food_Beverages_and_Tobacco_2015_full.pdf

92 Blecher EH, van Walbeek CP Cigarette affordability trends: an update and some methodological comments Tobacco Control 2009;18:167-175.

93 World Health Organization. WHO report on the global tobacco epidemic, 2017: Country profile, Ireland. WHO, Geneva; 2017.

94 Hill S, Amos A, Clifford D, et al Impact of tobacco control interventions on socioeconomic inequalities in smoking: review of the evidence Tobacco Control 2014;23:e89-e97.

95 Gallus, S, Lugo A, La Vecchia C, Boffetta P, Chaloupka FJ et al. Pricing Policies and control of tobacco in Europe, Work Package 2: European survey on economic aspects of smoking. PPACTE, Dublin 2012.

Studies of tobacco control measures in Ireland have confirmed that a considerable impact has been recently achieved: in the period 1998 to 2010 these measures resulted in a 22% relative reduction in smoking prevalence and 1716 fewer smoking-attributable deaths.⁹⁶ A recent study examined the relative contribution of various existing tobacco control measures to a reduction in smoking prevalence, and then forecast these trends forward to estimate when Ireland could expect to reach the tobacco endgame.⁹⁷ It confirmed taxation and pricing policy as the single most effective control measure, responsible for 31% of the recent reduction in smoking prevalence among males, twice the impact of the next strongest measure, smoke-free laws. Through continuing current measures, smoking prevalence in Ireland in 2025 was projected to be 16.7% for males and 15.4% for females, falling short of the bold ambition of *Tobacco Free Ireland*.

While this *State of Tobacco Control Report* has identified opportunities to strengthen business as usual tobacco control, the finding that the continuation of current measures will be insufficient to achieve a timely endgame is not unique to Ireland. A recent study of trends in tobacco control measures and smoking prevalence in New Zealand, where smoking prevalence is lower than in Ireland, found that it would also fail to meet its target of achieving an endgame scenario and a tobacco free society by 2025 through business-as-usual tobacco control.⁹⁸

What are the implications for the endgame in Ireland?

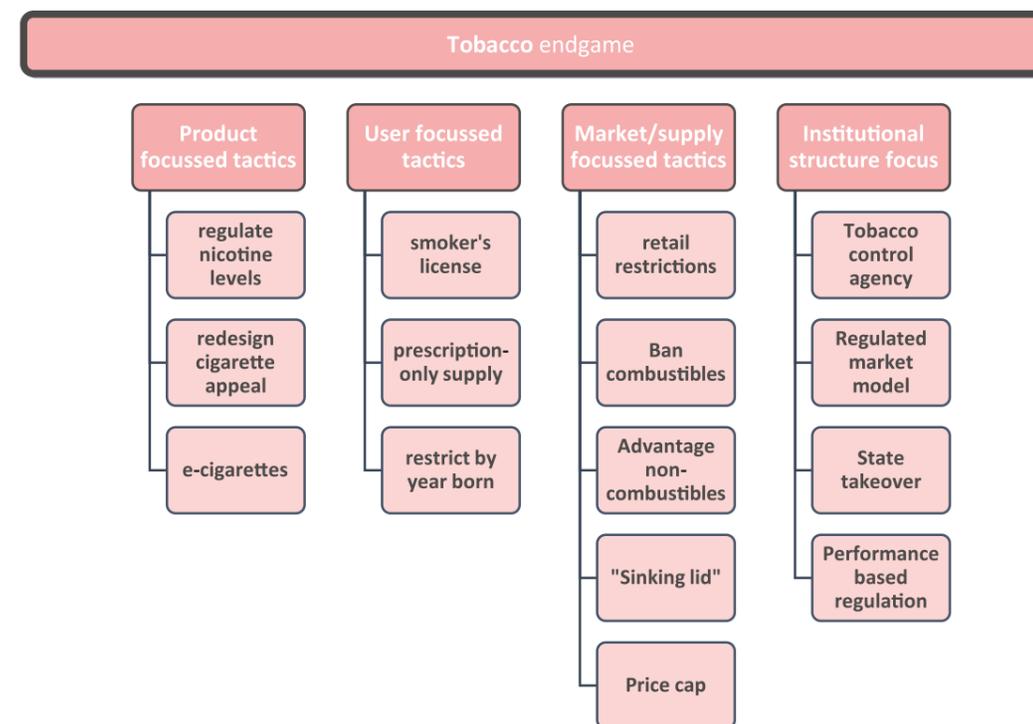
5.6 Tobacco Free Ireland – a bold vision demanding a game change

The scale of the tobacco epidemic toll on public health in Ireland demanded a bold vision, and political leadership has bravely stepped up with a commitment to definitively end a threat to health. While there are opportunities to develop and strengthen current tobacco control measures, *Tobacco Free Ireland's* vision will not be achieved through business-as-usual alone; the endgame demands a game change.⁹⁹ Innovation in strategic policy and implementation is required. Figure 59 outlines some of the potential innovations which have been proposed internationally to move from tobacco control to tobacco elimination.¹⁰⁰

Reducing nicotine levels in tobacco products could make them less addictive; the design of cigarettes, which has evolved over time to make them more palatable, could be redesigned to reduce appeal; the ban on flavoured cigarettes through the Tobacco Products Directive is an example. Restricting the purchase of tobacco products through the requirement of a license or a prescription could stem access. It has also been proposed that countries could outlaw the sale of tobacco products by year of birth to create a “tobacco free generation,” significantly extending the intent and impact of current restrictions on sales to minors. Unrestricted retail is an established factor in smoking initiation and relapse among quitters.^{101, 102} This *State of Tobacco Control Report* describes the significant scale of tobacco retail activity in Ireland. *Tobacco Free Ireland* includes plans to restrict this further. The supply of combustible tobacco products could be impacted by tactics which deliberately provide advantage to other non-combustible products, for example through differential taxation and pricing policies, and combustible tobacco products could be banned completely. A “sinking lid” can be placed on the manufacturing and supply of tobacco products through incremental reductions in quotas down to zero, thus

96 Currie LM, Blackman K, Clancy L, et al The effect of tobacco control policies on smoking prevalence and smoking-attributable deaths in Ireland using the IrelandSS simulation model *Tobacco Control* 2013;22:e25-e32.
 97 Li S., Levy D., Clancy L. The Effect of Tobacco Control Policies on Smoking Prevalence using the Ireland SimSmoke Model: Is Tobacco Free Ireland 2025 Feasible? *TobaccoFree Research Institute Ireland (TFRI)*.
 98 van der Deen FS, Wilson N, Cleghorn CL, et al Impact of five tobacco endgame strategies on future smoking prevalence, population health and health system costs: two modelling studies to inform the tobacco endgame *Tobacco Control* 2018;27:278-286.
 99 Warner KE An endgame for tobacco? *Tobacco Control* 2013;22:i3-i5.
 100 McDaniel PA, Smith EA, Malone RE The tobacco endgame: a qualitative review and synthesis *Tobacco Control* 2016;25:594-604.
 101 Lipperman-Kreda S, Grube JW, Friend KB. Local tobacco policy and tobacco outlet density: associations with youth smoking. *J Adolesc Health* 2012;50:547-52.
 102 Halonen JI, Kivimäki M, Kouvonen A, et al. Proximity to a tobacco store and smoking cessation: a cohort study. *Tob Control* 2014;23:146-51.

Figure 59: Potential innovations to achieve tobacco endgame



Source: adapted from McDaniel et al

reducing and eliminating supply. The pricing structure of tobacco products could be controlled by government through caps to reduce the benefits arising to industry from tax increases. A tobacco control agency could consolidate and expand tobacco product regulation to ensure this is more commensurate with the dangerous nature of the products; this could be extended to a regulated market model with a tobacco control agency also becoming the sole purchaser of products for onward distribution to people who smoke, enabling it to leverage its monopoly position to impact the tobacco industry. Extending this further, the state could take over tobacco production to control, phase out and eliminate tobacco products. Finally, in line with a “polluter pays” approach, regulation could place the burden of smoking prevalence reduction on the tobacco industry, requiring it to deliver benefits or else face sanctions.

As has been the experience with tobacco control, tobacco elimination will be best served by comprehensive and integrated initiatives. Furthermore, it’s clear that the “thinking outside the box” required for an endgame threatens to strike a series of lethal blows to the tobacco industry. Persistent, unequivocal and connected leadership across the tobacco control community is required to meet and overcome the resistance ahead and the wide range of formal and subtle tactics which will seek to counter tobacco elimination efforts. Recent experience with the Tobacco Products Directive is testament to this challenge.¹⁰³

Among these potential endgame innovations, questions regarding e-cigarettes are receiving significant attention.

103 Peeters S, Costa H, Stuckler D, et al The revision of the 2014 European tobacco products directive: an analysis of the tobacco industry's attempts to 'break the health silo' *Tobacco Control* 2016;25:108-117.

As scientific evidence and international experience regarding the risk-benefit profile of e-cigarettes accumulate, views and positions continue to evolve and remain diverse.¹⁰⁴ The Health Information and Quality Authority recently reviewed evidence regarding smoking cessation supports.¹⁰⁵ Its advice to the Minister for Health concluded that, regarding e-cigarettes, there was “insufficient evidence at present to reliably demonstrate their effectiveness as an aid to smoking cessation;” it also noted “concerns that the social normalisation of e-cigarettes may lead to new use by people who have never smoked, later migration to tobacco cigarettes, long-term nicotine dependency, and other potential and as yet unknown harm.”

Debate arises from gaps and weaknesses in the evidence base. Impeccable science used ethically has characterised tobacco control and has built the trust of the public and political leadership in the sometimes tough decisions that flow from research and evidence. Scientific progress in resolving these key questions is being made and this will help inform policy decisions in Ireland.¹⁰⁶

However, questions regarding the place of e-cigarettes in the tobacco endgame are more than technical in nature; the role of judgement based on values and interests must also be recognised in this debate.¹⁰⁷

The interests of the tobacco industry are clear, and its power in advancing them through a wide range of tactics is well established.¹⁰⁸ Public health, on the other hand, is fundamentally concerned with the best interests of the public, protection from potential harm and threats, and the adoption of a precautionary approach usually underpins the best course of action.¹⁰⁹ Tobacco control is one of the best examples of how well this principle has served the public’s health. At the same time, problems sometimes present where elimination of harms or threat is neither a feasible nor the socially desired position, and an approach that seeks to reduce the harmful impact of risky behaviour, rather than eliminate it, can be appropriate.¹¹⁰ The role of a harm reduction approach in the endgame and the potential and exclusive position of e-cigarettes in this regard are, however, contested.¹¹¹ Furthermore, there is a tension between collective and individual outlooks on risky behaviour; the potential reduction of harm for an individual through e-cigarettes has wider social implications such as exposure to second-hand vapour, disruption of smoking initiation prevention and re-normalisation of the use of products containing nicotine through the social performance of vaping.

The challenge of the e-cigarettes debate stems from a need to identify, engage with and reconcile these values and interests with due regard to scientific evidence. This is a role for the state, based on public and political discourse, providing leadership which identifies a position that best expresses a balance of social values and interests.¹¹²

As the debate about e-cigarettes continues, there is a real risk of fracturing the tobacco control community and distracting from its other priorities and opportunities in control and potential elimination.¹¹³ This cannot be overlooked.

Achievement of a tobacco endgame is critically dependent on broad-based, coordinated and resilient community action: individuals, organisations and political leadership working relentlessly together towards a common goal. International evidence demonstrates that, while public understanding of the tobacco endgame concept is mixed,

104 Kennedy RD, Awopegba A, De León E, et al. Global approaches to regulating electronic cigarettes. *Tobacco Control* 2017;26:440-445.

105 Health Information and Quality Authority. Health technology assessment (HTA) of smoking cessation interventions. Dublin, Health Information and Quality Authority; 2017.

106 Newton JN, Dockrell M, Marczylo T. Making sense of the latest evidence on electronic cigarettes. *The Lancet* 2018; 391 (10121): 639-642.

107 Fairchild AL, Bayer R, Colgrove J. The renormalization of smoking? E-cigarettes and the tobacco “endgame”. *N Engl J Med*. 2014 Jan 23;370(4):293-5.

108 Brandt AM. Inventing Conflicts of Interest: A History of Tobacco Industry Tactics. *American Journal of Public Health*. 2012;102(1):63-71.

109 Goldstein BD. The Precautionary Principle Also Applies to Public Health Actions. *American Journal of Public Health*. 2001;91(9):1358-1361.

110 Fairchild AL, Lee JS, Bayer R, Curran J. E-Cigarettes and the Harm-Reduction Continuum. *N Engl J Med*. 2018 Jan 18;378(3):216-219.

111 Chapman S, Wakefield MA. Large-scale unassisted smoking cessation over 50 years: lessons from history for endgame planning in tobacco control. *Tobacco Control* 2013;22:i33-i35.

112 Dawson A, Verweij M. No Smoke Without Fire: Harm Reduction, E-Cigarettes and the Smoking Endgame. *Public Health Ethics*, Volume 10, Issue 1, 1 April 2017, Pages 1-4,

113 Malone RE The Race to a Tobacco Endgame *Tobacco Control* 2016;25:607-608

in fact many, including people who smoke, believe it is time for bold and decisive action.^{114,115, 116,117} Importantly, evidence also points to the strongest support among those groups in the population most impacted by the financial and health burden of smoking.¹¹⁸ To achieve the bold vision of **Tobacco Free Ireland**, there is an opportunity now to engage, mobilise and strengthen community action through public and political discussion to build consensus and support for the brave actions necessary to make this a reality.

5.7 Conclusion and recommendations

Through *Healthy Ireland*, government has recognised the fundamental importance of good health and wellbeing.¹¹⁹ This is echoed in recent reports, including *SláinteCare* and the *Health Service Capacity Review*.^{120, 121} Tackling smoking is the single biggest opportunity to protect and improve public health in Ireland. *Tobacco Free Ireland* builds on our country’s success by calling for a game-changing move from tobacco control to tobacco elimination. As the provider of health and social services, the HSE must contribute to this goal.

This *State of Tobacco Control Report* has assessed public health needs through describing the trends in the use of tobacco products and comparing them across population groups; it has quantified the impact of tobacco use on health and wellbeing in Ireland; and it has described trends in HSE tobacco control activities, including reach and impact.

Progress continues to be made in tackling smoking but counting the continuing toll on public health is stark: there is no room for complacency. The need to ensure that progress is enjoyed equally by everyone has emerged and the importance of keeping pace with the changing face of the tobacco epidemic is underlined.

Evidence-based tobacco control initiatives are effectively delivered by the HSE to a significant scale and scope. The current impact on the problem is clear as are opportunities to strengthen and develop our role through the new HSE *Tobacco Free Ireland* Programme Plan. The HSE’s role needs to coordinate with and be supported by a wider framework of initiatives; taxation and pricing remain the most important levers to affect a decline in smoking across the population, especially in the poorest groups which experience the greatest burden of smoking related disease. Government must continue to apply this lever to its maximum potential.

Achieving a *Tobacco Free Ireland* will require game-changing approaches; while some opportunities are emerging, other solutions have yet to be conceived. The strong leadership demonstrated in Ireland to deliver a significant blow against the tobacco epidemic through the legislative ban on workplace smoking demonstrates that there is a capability to mobilise broad-based support for innovative approaches in tobacco control. Is it time now to re-engage the public, organisations and political leadership to rebuild the community action necessary to move *Tobacco Free Ireland’s* bold vision into a tobacco endgame reality?

114 Gallus S, Lugo A, Fernandez E, Gilmore AB, Leon ME, Clancy L, La Vecchia C. Support for a tobacco endgame strategy in 18 European countries. *Prev Med*. 2014 Oct;67:255-8

115 Jaïne R, Healey B, Edwards R, et al How adolescents view the tobacco endgame and tobacco control measures: trends and associations in support among 14–15 year olds *Tobacco Control* 2015;24:449-454.

116 Shahab L, West R Public support in England for a total ban on the sale of tobacco products *Tobacco Control* 2010;19:143-147.

117 Hayes L, Wakefield MA, Scollo MM Public opinion about ending the sale of tobacco in Australia *Tobacco Control* 2014;23:183-184.

118 Edwards R, Wilson N, Peace J, et al Support for a tobacco endgame and increased regulation of the tobacco industry among New Zealand smokers: results from a National Survey *Tobacco Control* 2013;22:e86-e93.

119 Department of Health. *Healthy Ireland: A Framework for Improved Health and Wellbeing 2013-2025*. 2013

120 Houses of the Oireachtas, Committee on the Future of Healthcare. *Sláintecare Report*. 2017.

121 Department of Health. *Health Service Capacity Review*. 2018.

Next steps for the HSE

The HSE *Tobacco Free Ireland* Programme is taking forward lessons learned from this *State of Tobacco Control Report* through its Programme Plan 2018-2021 with a focus on identified key priorities:

- Provide and develop leadership across the health services to support the ambition of *Tobacco Free Ireland*.
- Leverage Hospital Group and Community Health Organisation *Healthy Ireland* implementation to translate HSE *Tobacco Free Ireland* Programme objectives into day-to-day business in Health and Social Services for local populations.
- Build and ensure compliance with tobacco control legislation, ensuring requisite capacity is in place to deliver the benefits of the Tobacco Products Directive and identifying opportunities to maximise the impact of its regulatory role, giving priority to protecting children and de-normalising tobacco as a retail product.
- Continue to use public communication to warn the public about the harm caused by tobacco and provide support to quit, responding to and maximising impact from the changing media landscape, as well as identifying innovative ways to respond to and engage with the needs of different population groups.
- Strengthen and scale up smoking cessation services through ensuring health professionals engage appropriately with people who smoke with “*Making Every Contact Counts*,” developing and implementing national clinical guidelines, and supporting referral and service delivery with a new electronic patient management system. In addition, consider how we can better promote smoking cessation services, remove barriers to access, and extend their reach through, for example, nurse prescribing.
- Consider how the HSE *Tobacco Free Ireland* Programme Plan can maximise the impact across the population with particular reference to health inequalities, people with mental health problems and women who are pregnant.
- Invest in and develop the use of research, monitoring and evaluation to support the HSE *Tobacco Free Ireland* Programme Plan including:
 - Tracking of key metrics against the programme logic model to relate inputs (including costs) and activities to outputs and outcomes, using the indicators set out in this *State of Tobacco Control Report* as a starting point, and paying attention to impact at whole-population level as well as at the level of specific population groups.
 - Exploit the potential of populated-based health surveys through secondary analysis to better understand progress and priorities for tackling smoking.
 - Seek to invest in, promote and support a programme of research which specifically addresses knowledge gaps for delivery of *Tobacco Free Ireland* including the need to better understand:
 - later initiation of smoking past childhood and adolescence, identifying opportunities to intervene
 - occasional smoking and use of roll-your-own tobacco products, identifying opportunities to intervene
 - the changing media environment, how it is shaping the tobacco epidemic and new opportunities to leverage it to tackle smoking
 - how to maximise demand for and impact of smoking cessation support

- how to ensure that initiatives to prevent initiation and support smoking cessation benefit all population groups, ideally with most impact for those with greatest needs
- tobacco endgame opportunities for Ireland and how best to engage the public, organisations and political leadership in action to realise these.

With our *Tobacco Free Ireland* partners

- Consider how best to continue to coordinate activity and strengthen collaboration so that, together, we build a deeper understanding of the tobacco epidemic in Ireland, identify new opportunities and innovative solutions, and strengthen our collective impact.
- Extend our network of partnerships, engage new organisations in the discussion about the impact of smoking and we can work better together to end tobacco use.

With the Department of Health and government

- Consider how best to provide a continuing focus on and strong leadership, including the relevance of this *State of Tobacco Control Report* to the roles of the Cabinet Committee on Health and the Oireachtas Committee on Health and the on-going review and implementation of *Tobacco Free Ireland*.
- Consider the role for more specific and incremental targets to track progress towards a *Tobacco Free Ireland* and provide feedback for implementation planning and prioritisation of resources.
- Consider how to maximise the value of the *Healthy Ireland* surveys, ensuring sufficient depth, breath and periodicity in survey design, and facilitating access for secondary analysis and research.
- Continue to maximise the impact of taxation and pricing on the demand for tobacco products in line with WHO recommendations.
- Consider opportunities to remove barriers to access and maximise demand for smoking cessation services in the context of policy on chronic disease management.
- Continue to leverage international relationships to share good practice and learn how best to approach tobacco endgame.
- Explore opportunities to design and fund a *Tobacco Free Ireland* research programme for tobacco endgame innovation.
- Continue to horizon scan to understand and determine policy on the role of e-cigarettes and other new technologies and opportunities for the tobacco endgame in Ireland.

6. Annex

Annex 1 Sourcing of Data and Data Analysis

Healthy Ireland Survey:

Application was made to the Department of Health, Dublin for the research micro file (rmf) of wave 1 of the Healthy Ireland Survey 2015. Permission was granted and data obtained on 13th September 2017.

All statistical analysis was carried out using JMP statistical package, SAS, version 12. Bivariate analysis using Pearson's Chi-squared & Fisher's Exact Tests were used to compare proportions. Multivariate analysis including logistic regression modelling were carried out using discretionary backward elimination. Statistical significance was determined at the 0.05 level. Exact 95% confidence intervals were calculated for proportions of binomial variables and for regression adjusted odds ratios. For data that was normally distributed, the two-sample t test was used to compare means in independent groups. For data not normally distributed, non-parametric tests were used.

HSE Tracker Survey:

Application was made to Environmental Health Services, HSE, for permission to use the HSE monthly smoking prevalence survey (Tracker Survey). Permission was granted.

All statistical analysis was carried out using JMP statistical package, SAS, version 12. Three-month moving averages were calculated for the sub-groups of interest, with the change in smoking prevalence between December 2005 and March 2017 calculated.

HSE Smoking Cessation Services – Enhanced Data Collection Exercise:

A data collection form was designed in Excel, with information sought on all new and return service users who accessed smoking cessation services during February 2017; information included demographics of the clients, their source of referral to the service, the supports offered to them, and some standard programme outcomes.

Data was collated and analysed by the Department of Public Health, HSE North East, using JMP statistical package, version 12. Comparisons of this group of service users were made with the population of people who smoke in Ireland using the Healthy Ireland Survey 2015 rmf.

Bivariate analysis using Pearson's Chi-squared & Fisher's Exact Tests were used to compare proportions. Multivariate analysis including logistic regression modelling were carried out using discretionary backward elimination. Statistical significance was determined at the 0.05 level. Exact 95% confidence intervals were calculated for proportions of binomial variables and for regression adjusted odds ratios. For data that was normally distributed, the two-sample t test was used to compare means in independent groups. For data not normally distributed, non-parametric tests were used.

Annex 2 Estimating deaths and hospitalisations due to tobacco use

This section provides a detailed description of the methodology used to estimate the burden of smoking on health and care services. The estimates were calculated using methodology previously used by ICF International in the report "An Assessment of the economic cost of smoking in Ireland" for the Department of Health, Dublin, published in March 2016.²⁴

The following information was required:

1. Age- and gender-specific smoking rates for current and ex-smokers (HI Survey 2015 rmf).
2. Rates of exposure to second-hand smoke in the home (Healthy Ireland Survey 2016 – summary of findings).
3. Published relative risks for smoking-related diseases for current and ex-smokers (An Assessment of the economic cost of smoking in Ireland). (Table A)
4. Published relative risks for diseases with a relationship with exposure to second-hand smoke, for non-smokers (An Assessment of the economic cost of smoking in Ireland). (Table B)
5. Observed numbers of hospital admissions (inpatient and day case) caused by diseases which can be caused by smoking or exposure to second-hand smoke, for the years 2011-2016 (Hospital Inpatient Enquiry system, Healthcare Pricing Office, HSE via Hipe Online Portal).
6. Final numbers of deaths caused by diseases which can be caused by smoking or exposure to second-hand smoke, for the years 2011-2015, with provisional numbers of deaths for the year 2016 (Vital Statistics, Central Statistics Office via <http://www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=VSA08&PLanguage=0> and request of 2016 provisional figures direct from CSO).

a) Deaths, hospital inpatient admissions and day cases caused by smoking

The number of deaths, hospital inpatient admissions and day cases caused by smoking were calculated for each condition separately. For each condition, the formula below was used:

$$a = \frac{[p_{cur}(r_{cur} - 1) + p_{ex}(r_{ex} - 1)]}{[1 + p_{cur}(r_{cur} - 1) + p_{ex}(r_{ex} - 1)]}$$

Where:

a = smoking attributable proportion for each disease;

p_{cur} = proportion of current smokers;

p_{ex} = proportion of ex-smokers;

r_{cur} = relative risk for current smokers; and

r_{ex} = relative risk for ex-smokers.

Once the smoking attributable proportion of each condition was established, this was multiplied by the total number of deaths, hospital inpatient admissions and day cases, to give the total number of deaths, hospital inpatient admissions and day cases that were attributable to smoking.

b) Deaths, hospital inpatient admissions and day cases due to exposure to second-hand smoke

The attributable proportion for exposure to second-hand smoke for each disease was applied to the non-smoking health burden to estimate the number of deaths, hospital inpatient admissions and day cases due to exposure to second-hand smoke; this involved a two-stage process, using the equations below.

$$b = \frac{[p_{shs}(r_{shs} - 1)]}{[1 + p_{shs}(r_{shs} - 1)]}$$

and

$$NSB = [T - (T * a)] * [1 - (p_{cur} + p_{ex})]$$

Where:

b = Exposure to second-hand smoke attributable proportion for each disease;

p_{shs} = Proportion of non-smoking population exposed to second-hand smoke;

r_{shs} = Relative risk for people exposed to second-hand smoke;

NSB = Burden to non-smokers – the number of deaths and hospital admissions attributable to non-smokers; and

T = Total number of deaths and hospital admissions.

Table A: Conditions with a causal relationship with smoking (sourced from ICF International report, commissioned by Department of Health, 2016) ²⁴

Condition	ICD10 Code	Age	Female smokers		Male smokers	
			Current RR	Ex RR	Current RR	Ex RR
Cancers						
Lung Cancer	C33-C34	35+	12.69	4.53	23.26	8.7
Cancer of the trachea and bronchus	C33-C34	35+	12.69	4.53	23.26	8.7
Oral and upper respiratory cancers	C00-C14	20+	5.08	2.29	10.89	3.4
Oesophageal cancer	C15	35+	7.75	2.79	6.76	4.46
Cancer of the larynx	C32	35+	13.02	5.16	14.6	6.34
Stomach cancer	C16	35+	1.36	1.32	1.96	1.47
Kidney cancers	C64-C66	35+	1.4	1.1	2.5	1.7
Cervical	C53	35+	1.59	1.14	1	1
Bladder	C67	35+	2.22	1.89	3.27	2.09
Pancreatic cancer	C25	35+	2.25	1.55	2.31	1.15
Leukaemia	C91-C96	35+	1.2	1.3	1.8	1.4
Liver cancer	C22	35+	1.7	1.4	1.7	1.4
Colorectal cancer	C18-C20	35+	2.14	1.47	2.14	1.47
Cancer of unspecified area	C80	35+	2.2	1.3	4.4	2.5

Condition	ICD10 Code	Age	Female smokers		Male smokers	
			Current RR	Ex RR	Current RR	Ex RR
Cardiovascular Diseases						
Coronary heart disease	I20-I25	35-54	5.3	2.6	4.2	2
Coronary heart disease	I20-I25	55-64	2.8	1.1	2.5	1.6
Coronary heart disease	I20-I25	65-74	2.1	1.2	1.8	1.3
Coronary heart disease	I20-I25	75+	1.4	1.2	1.4	1.1
Cerebrovascular Disease	I60-I69	35-54	5.4	1.3	4.4	1.1
Cerebrovascular Disease	I60-I69	55-64	3.7	1.3	3.1	1.1
Cerebrovascular Disease	I60-I69	65-74	2.6	1.3	2.2	1.1
Cerebrovascular Disease	I60-I69	75+	1.3	1	1.6	1.1
Aortic Aneurysm	I71	35+	7.07	2.07	6.21	3.07
Atherosclerosis	I70	35+	1.83	1	2.44	1.33
Other Arterial Disease	I72-I78	35+	2.17	1.12	2.07	1.01
Other Heart disease	I00-I09, I26-I51	35+	1.49	1.14	1.78	1.22
Respiratory Diseases						
Chronic obstructive pulmonary disease	J40-43, J47	35+	12.04	11.77	17.1	15.64
Chronic airway obstruction	J44	35+	13.08	6.78	10.58	6.8
Pneumonia	J12-J18	35-64	4.3	1.1	2.5	1.4
Pneumonia	J12-J18	65+	2.2	1.1	2	1.4
Influenza	J10-J11	35-64	4.3	1.1	2.5	1.4
Influenza	J10-J11	65+	2.2	1.1	2	1.4
Mycobacterium Tuberculosis	A15-A19	35+	2.3		2.3	
Reproductive Conditions						
Erectile dysfunction	F52.2, N48.4	20+			1.7	1.6
Foetal death and stillbirths (all ages)	P95, Z37.1, Z37.3, 37.4, Z37.6, Z37.7	ALL	1.47			
Ectopic pregnancy (all ages)	O00	ALL	1.91			
Oral clefts	Q35-Q37	<1 yr	1.28			
Perinatal effects	P00.0 - P77 (selection)	ALL	1.5			
Low birth weight		<1 yr	1.4			

Condition	ICD10 Code	Age	Female smokers		Male smokers	
			Current RR	Ex RR	Current RR	Ex RR
Other Conditions						
Cataract	H25	45+	1.54	1.11	1.54	1.11
Macular degeneration	H35.3	45+	2.97	1.88	2.97	1.88
Hip #	S72.0-S72.2	55-64	1.17	1.02	1.17	1.02
Hip #	S72.0-S72.2	65-74	1.41	1.08	1.41	1.08
Hip #	S72.0-S72.2	75+	1.85	1.22	1.76	1.14
Peptic ulcer disease	K25-K28	35+	5.5	1.4	5.4	1.8
Periodontitis	K05.2-K05.6	35+	3.97	1.68	3.97	1.68
Diabetes (Type 2)	E11	35+	1.37	1.14	1.37	1.14
Rheumatoid arthritis	M05-M06	35+	1.75	1.25	1.89	1.25
Dental caries	K02	ALL	1.76	1.39	1.76	1.39
Crohn's disease	K50	35+	2.1	1	2.1	1
Low bone density	M80-M83	45+	1.25			

Table B: Health Conditions with a causal relationship with exposure to second-hand smoke (sourced from ICF International report, commissioned by Department of Health, 2016) ²⁴

Condition	ICD10 Code	Age	Relative Risk
Lung Cancer	C34	20+	1.29
Coronary heart disease (CHD)	I20-I25	20+	1.32
Stroke	I63	20+	1.25
SIDS	R95	<1	1.94
Middle ear disease	H65-H75	0-10	1.32
Reduction in birth weight	P07	-	1.2

Source: An Assessment of the economic cost of smoking in Ireland, IMF International.

Table C: Estimate of hospital inpatient admissions attributable to smoking

All Conditions	2011	2012	2013	2014	2015	2016
Total	29732	31462	31737	31827	32115	33231
Male	17962	18715	18683	18780	18891	19481
Female	11770	12746	13054	13046	13224	13751
Disease Group						
Cancers	6452	6442	6275	5880	5518	5611
- Male	4415	4335	4263	3978	3696	3713
- Female	2036	2107	2012	1902	1822	1898
Cardiovascular Diseases	9228	9503	9278	9532	9797	9728
- Male	6596	6759	6612	6840	7047	6979
- Female	2632	2745	2666	2692	2749	2749
Respiratory Diseases	11663	13167	13837	14078	14542	15668
- Male	6150	6843	7039	7209	7443	8105
- Female	5513	6323	6798	6868	7099	7563
Reproductive Conditions	856	846	867	870	873	851
- Male	5	<5	<5	<5	5	<5
- Female	851	842	864	868	869	849
Other Effects	1533	1503	1481	1467	1386	1374
- Male	795	774	766	750	701	682
- Female	738	729	715	716	685	692

Table D: Top-10 principal diagnosis for inpatient hospitalisations as a result of smoking by gender, 2015

Male			Female		
Rank	Condition	Number	Rank	Condition	Number
1	Chronic airway obstruction (35+ yrs)	6188	1	Chronic airway obstruction (35+ yrs)	5975
2	Other Heart disease (35+ yrs)	2241	2	Other Heart disease (35+ yrs)	989
3	Cancer of Trachea, Bronchus, Lung (35+ yrs)	1252	3	Cancer of Trachea, Bronchus, Lung (35+ yrs)	958
4	Coronary heart disease (35-54 yrs)	1088	4	Pneumonia (35-64 yrs)	586
5	Pneumonia (65+ yrs)	1053	5	Pneumonia (65+ yrs)	550
6	Coronary heart disease (55-64 yrs)	1008	6	Perinatal effects (All ages)	444
7	Coronary heart disease (65-74 yrs)	733	7	Chronic obstructive pulmonary disease (35+ yrs)	371
8	Pneumonia (35-64 yrs)	484	8	Coronary heart disease (35-54 yrs)	324
9	Colorectal cancer (35+ yrs)	481	9	Colorectal cancer (35+ yrs)	294
10	Oral and upper respiratory cancers (35+ yrs)	430	10	Coronary heart disease (55-64 yrs)	242

Table E: Estimate of hospital day case admissions attributable to smoking

All Conditions	2011	2012	2013	2014	2015	2016
Total	17369	19418	19855	20352	20511	21274
Male	10457	11405	11559	11764	12057	12504
Female	6912	8013	8295	8589	8454	8770
Disease Group	2011	2012	2013	2014	2015	2016
Cancers	6733	7093	7008	6923	7612	7840
- Male	4702	4737	4671	4625	5086	5226
- Female	2030	2356	2337	2298	2526	2614
Cardiovascular Diseases	2700	2696	2790	2903	2987	3049
- Male	1963	1906	2029	2072	2126	2234
- Female	737	790	761	831	860	815
Respiratory Diseases	1631	1941	1966	2071	1285	1253
- Male	796	971	941	947	583	585
- Female	835	970	1025	1124	703	668
Reproductive Conditions	54	59	61	41	29	39
- Male	21	39	43	21	17	27
- Female	33	20	18	21	12	12
Other Effects	6252	7629	8030	8413	8598	9093
- Male	2975	3752	3876	4099	4245	4432
- Female	3277	3876	4154	4315	4353	4661

Table F: Top 10 principal diagnosis for day case hospitalisations as a result of smoking by gender, 2015

Male			Female		
Rank	Condition	Number	Rank	Condition	Number
1	Macular degeneration (45+ yrs)	2219	1	Macular degeneration (45+ yrs)	2497
2	Cancer of Trachea, Bronchus, Lung (35+ yrs)	1543	2	Cancer of Trachea, Bronchus, Lung (35+ yrs)	1397
3	Leukaemia (35+ yrs)	916	3	Rheumatoid arthritis (35+ yrs)	663
4	Colorectal cancer (35+ yrs)	798	4	Crohn's disease (35+ yrs)	393
5	Other Heart disease (35+ yrs)	597	5	Chronic obstructive pulmonary disease (35+ yrs)	392
6	Coronary heart disease (55-64 yrs)	534	6	Colorectal cancer (35+ yrs)	384
7	Dental caries (All ages)	506	7	Dental caries (All ages)	380
8	Coronary heart disease (35-54 yrs)	454	8	Cataract (45+ yrs)	374
9	Rheumatoid arthritis (35+ yrs)	416	9	Chronic airway obstruction (35+ yrs)	258
10	Oesophageal cancer (35+ yrs)	410	10	Leukaemia (35+ yrs)	256

Table G: Estimate of deaths attributable to smoking, 2011-2016**

All Conditions	2011	2012	2013	2014	2015	2016**
Total	5705	5779	5846	5790	5819	5941
Male	3464	3534	3556	3468	3509	3588
Female	2241	2245	2290	2322	2309	2353
Disease Group	2011	2012	2013	2014	2015	2016**
Cancers	2846	2809	2865	2952	2870	2933
- Male	1833	1821	1862	1852	1848	1839
- Female	1013	988	1003	1100	1022	1094
Cardiovascular Diseases	1380	1407	1394	1316	1341	1377
- Male	869	894	893	836	843	892
- Female	511	513	502	481	498	484
Respiratory Diseases	1385	1473	1504	1436	1531	1551
- Male	713	773	763	741	776	817
- Female	671	700	741	696	755	734
Other Effects	94	90	83	86	77	80
- Male	48	46	38	40	43	40
- Female	46	45	45	45	34	40

** 2016 is provisional data, based on year of death registration

Table H: Top 10 causes of death as a result of smoking by gender, 2015

Males			Females		
Rank	Condition	Number	Rank	Condition	Number
1	Cancer of Trachea, Bronchus, Lung (35+ yrs)	905	1	Cancer of Trachea, Bronchus, Lung (35+ yrs)	596
2	Chronic airway obstruction (35+ yrs)	579	2	Chronic airway obstruction (35+ yrs)	581
3	Oesophageal cancer (35+ yrs)	193	3	Other Heart disease (35+ yrs)	141
4	Colorectal cancer (35+ yrs)	177	4	Coronary heart disease (75+ yrs)	132
5	Other Heart disease (35+ yrs)	176	5	Colorectal cancer (35+ yrs)	103
6	Coronary heart disease (65-74 yrs)	120	6	Pneumonia (65+ yrs)	90
7	Coronary heart disease (75+ yrs)	117	7	Oesophageal cancer (35+ yrs)	88
8	Coronary heart disease (55-64 yrs)	116	8	Pancreatic cancer (35+ yrs)	70
9	Pneumonia (65+ yrs)	115	9	Chronic obstructive pulmonary disease (35+ yrs)	69
10	Oral and upper respiratory cancers (35+ yrs)	102	10	Aortic Aneurysm(35+ yrs)	55

Table I: Estimates of morbidity and mortality caused by exposure to second-hand smoke, 2011-2016

	Inpatient admissions as a result of exposure to SHS					
Condition	2011	2012	2013	2014	2015	2016
Lung Cancer	11	12	11	11	10	11
Coronary heart disease	227	230	223	225	235	222
Stroke	73	75	73	74	76	78
Middle ear disease	28	31	25	23	22	23
Low birth weight	50	50	51	50	52	49
Total	390	397	382	384	395	383

	Day case admissions as a result of exposure to SHS					
Condition	2011	2012	2013	2014	2015	2016
Lung Cancer	10	13	12	12	14	15
Coronary heart disease	92	91	92	97	102	108
Stroke	0	0	0	0	0	0
Middle ear disease	114	120	109	98	96	89
Low birth weight	<5	<5	<5	<5	0	0
Total	218	224	214	208	212	212

	Deaths as a result of exposure to SHS					
Condition	2011	2012	2013	2014	2015	2016**
Lung Cancer	7	7	7	8	7	7
Coronary heart disease	71	72	70	65	67	66
Stroke	21	20	21	20	20	19
Middle ear disease	0	0	0	0	0	0
Low birth weight	<5	0	0	0	0	0
Total	100	99	98	93	94	93

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