

Stop Smoking in Dental Practice

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Health Improvement Manager



Aim of Course

- To raise awareness of smoking and the impact on Dental Health and the importance of the Dental Team in encouraging best practice related to stop smoking advice and support.



Background information

- Smoking Kills (1998)
- DHSSPS Smoking Cessation Service and Monitoring Guidance (2001/02)
- Training Framework for Smoking cessation for N. Ireland (2003)
- 10 Year Tobacco Action Plan (2012) – extended to February 2024
- Quality Standards (2011)

Priority Groups

- 1998 White Paper 'Smoking Kills' has three objectives
 - To reduce smoking amongst children and young people
 - To help adults, especially the most disadvantaged to give up smoking (routine and manual workers)
 - To offer particular help to pregnant women who smoke (and their partners)
 - People with mental health needs who smoke

Impact on Public Health

- Smoking kills 2,200 people in Northern Ireland each year
- £2.5 billion cost to NHS England per year (Govt. earned £9.7 billion through taxation)
- £218 million in NI hospital costs (DH 2023)
- Cost to the economy- sick leave/ breaks
- 252 deaths each day in the U.K. due to smoking
- 1/5 all deaths across all ages in the U.K.

Prevalence of Smoking in U.K. and N.I.

6 million adults in the UK smoke

- 11.5% of men & 9.6% of women in the U.K. smoke (ONS 2025)
- 14% of men & 11% of women in N.I. smoke

(Health Survey NI 2025)

Prevalence in target groups



- Smokers tend to start early – results for 11-16 year olds – 8% in 2022 had ever smoked, 2% current smokers. Regular smokers (once a week) 1% (Young Persons Behaviour and Attitudes Survey 2022)
- 19% of young people had ever smoked (2013)– 12% in 2016, 10% in 2019, 8% in 2022
- 55% young people smoked aged 13 and younger (YPBAS 2016)
- 2% of young people say they currently smoke
- Smoking prevalence is greatest amongst most disadvantaged groups (11% / 5%)

Children YPBAS (aged 11-16)

20% of respondents had ever used an e-cig

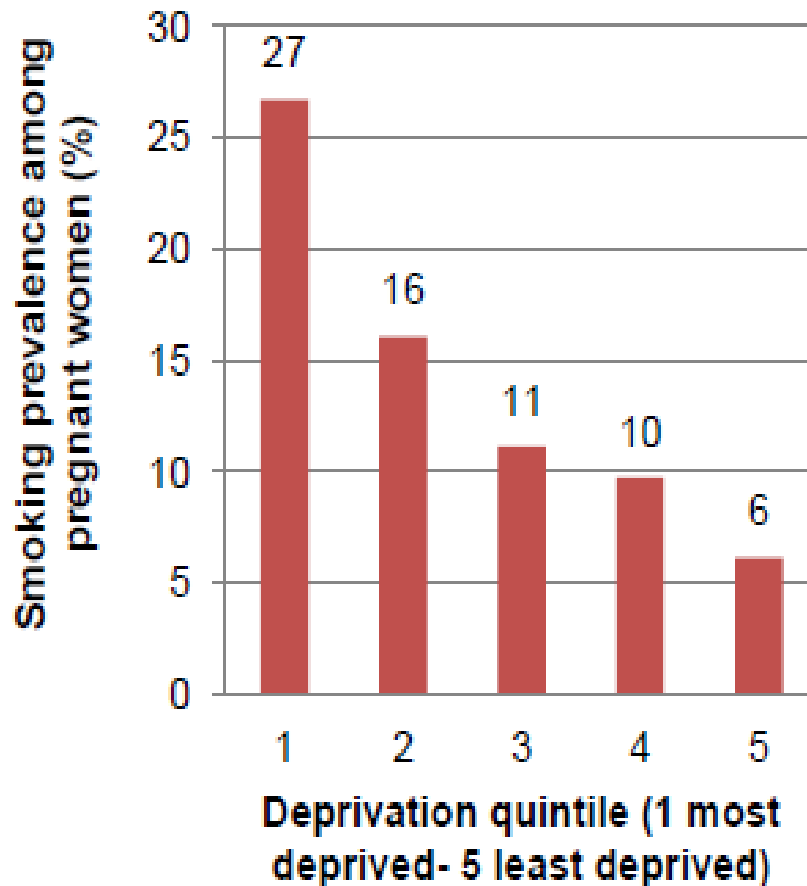
36% of pupils live in a household with an adult who smokes
21% of pupils live in a household with an adult who uses an e-cig

Effect of family smoking on smoking uptake *RCP* 2010

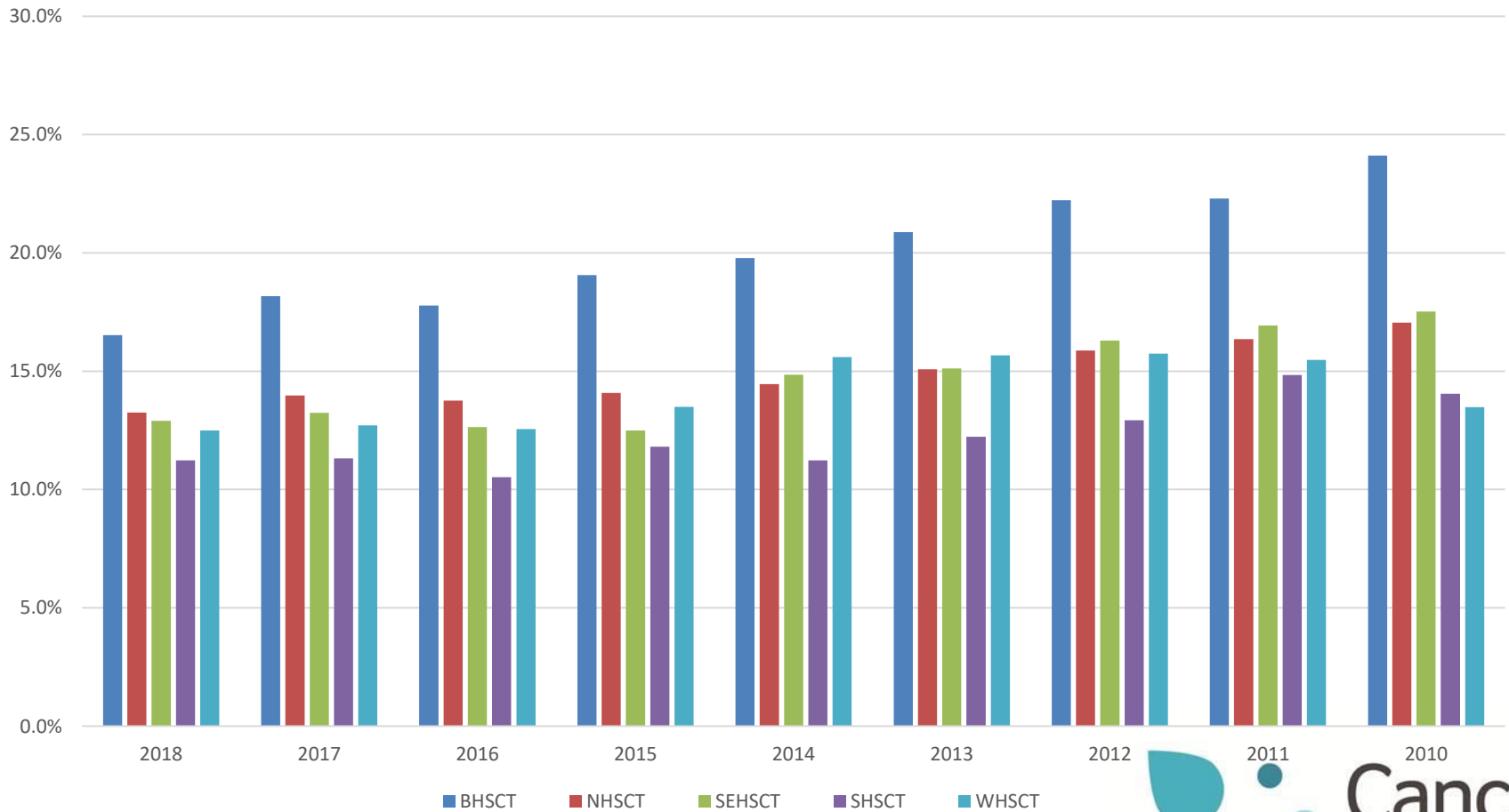
	Relative odds of smoking uptake
One parent	1.72
Both parents	2.73
Sibling smokes	2.30
Household smoking	1.92

- Household smoking accounts for about 1 in 6, or 25,000, new UK smokers by age 16 each year.

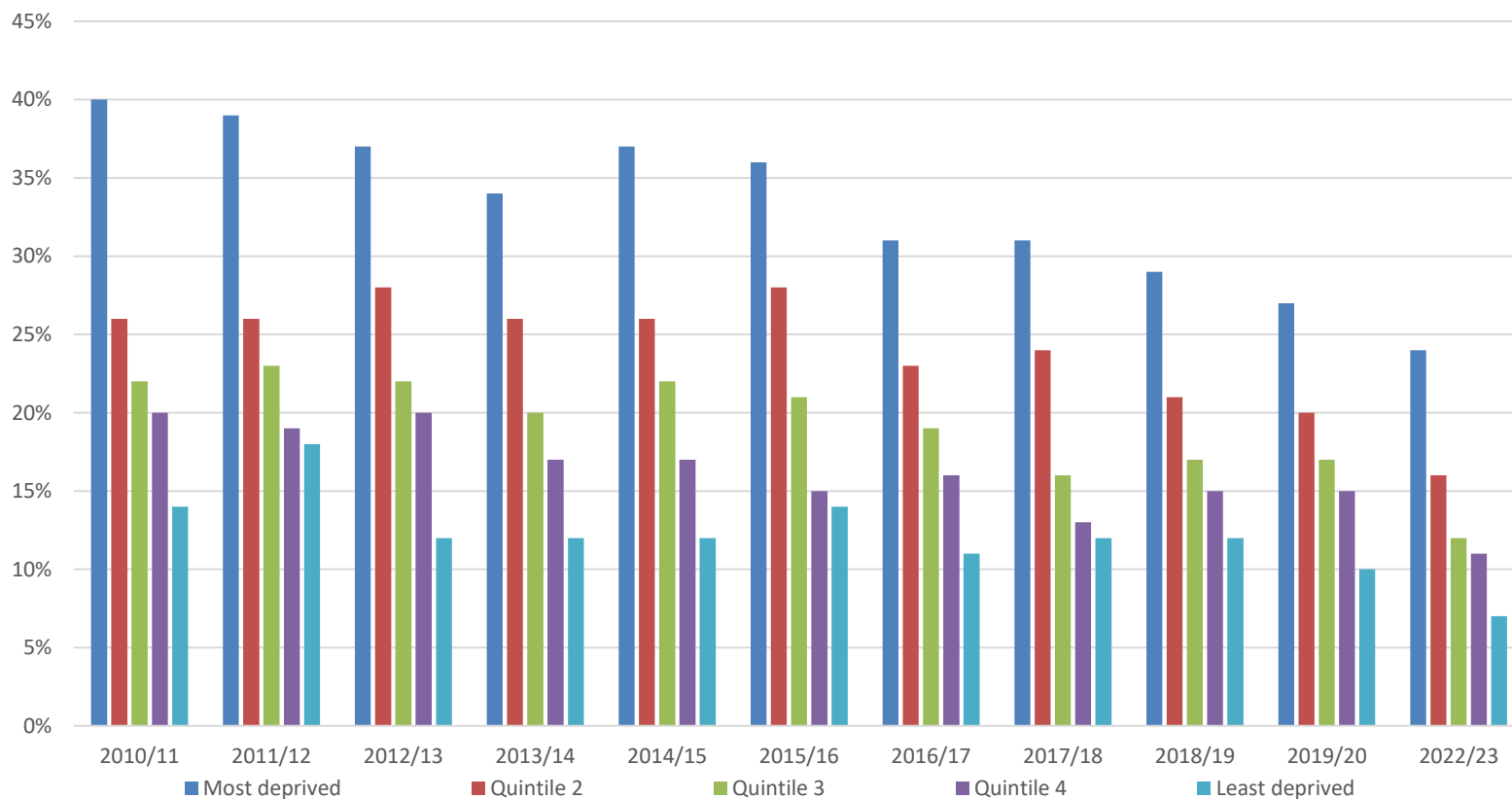
28% of mothers smoked before pregnancy, whilst 15% continue to smoke during pregnancy



Smoking in Pregnancy by HSCT 2010-2018



Smoking prevalence by SEG



Health Inequalities

Smoking remains **the major contributory factor to the gap** in mortality and healthy life expectancy between the rich and poor in our community.

PHA Targets

ASH NI Smokefree NI by 2035 - 5%

	Previous Strategy 2003	New Strategy 2010	Latest figures 2025	Target 2020
Adult	27	24	12	15
Manual workers	35	31	25.5	20
Pregnant smokers	23	15	11.3	9
11-16 year olds	14.5	8	2	3

Health Survey 2025, ONS UK, NIMATS 2022, YPBAS 2022

Health Risks Associated With Smoking

- 25% of all cancer deaths are caused by smoking
- 86% lung cancer deaths are smoking related
- 17% of Ischaemic Heart Disease and 85% of chronic bronchitis and emphysema deaths are related to smoking
- Diabetics who smoke double their risk of heart attack

Risks of Smoking and Pregnancy

- Low birth weight baby – increased 300%
- Premature birth – increased 200%
- Stillbirths or neonatal deaths – increased 40%
- Spontaneous abortion – increased 25%
- Placenta praevia – increased 300%
- Placental abruption – increased 240%
- Foetal malformation – increased 30%

The mouth and smoking

- Oral cancer
- Periodontal disease
- Poor healing
- Post extraction problems
- Implants
- Bad breath
- Diminished taste and smell

Mouth Cancer

Incidence (2018-2022)

Mortality

Males	171	125 (2020)	72	71(2020)
Females	90	71 (2020)	32	35 (2020)

Males

Females

Incidence/Mortality

Least deprived

30/11

15/4

Most deprived

45/22

22/8

NICR 2025

Staging of mouth cancer

Staging	Males	Females
I	24.2%	24.7%
II	12.6%	14.4%
III	16.3%	15.6%
IV	41.5%	38.7%

NICR 2025

Who mouth cancer effects

- More common in men
- 80% mouth cancers in NI in those over 54
- Rates much higher in white males
- 90% of mouth cancers in men, 85% in women are linked to lifestyle and environmental factors

The Risk Factors

- 2/3 mouth cancer cases are linked to smoking tobacco
- A morning cigarette doubles your chance of developing the disease
- Smokers have 3 x the risk of developing mouth cancer
- Pipe and cigar smokers even higher
- Ex-smokers reduce their risk by 1/3
- Smokeless tobacco can increase the risk x 30
- 30% of cases are linked with alcohol

Risk Factors continued

- More than half of cases in the UK are linked to poor diet
- Solar radiation linked to cancer of the lip
- HPV (Human papilloma virus) set to be the number one cause of mouth cancer in the future
- Mouth cancer 2.5 more likely in those with periodontal disease
- 60x higher in people with 6+ missing teeth
- Mouth cancer is 12-16x higher in those previously diagnosed with cancer
- 70% more common in families with a history of mouth cancer

Survival

Males

1 year	71.6%	5 year	46.3%
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Females

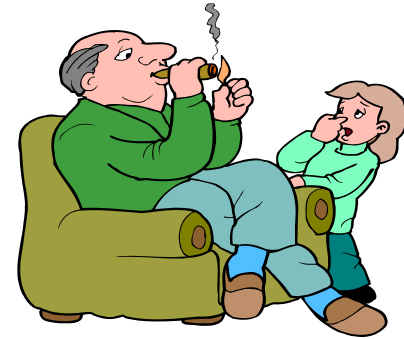
1 year	72.6%	5 year	53.1%
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NICR 2025

Second-hand Smoking

- Second-hand smoking in adults causes:
 - Increased sensitivity and reduced lung function in asthmatics
 - Irritation of eye, nose & throat
 - Reduced lung function in adults without chronic chest problems

Second-hand Smoking



- Second-hand smoking in babies and young children causes:
 - Increased risk of lower respiratory tract infection
 - Increased asthma symptoms, chronic coughs and wheezing
 - Greater risk of middle ear infection (glue ear)



Reasons Why People Start to Smoke

Reasons Why People Start to Smoke

- Curiosity
- Parental example
- Social acceptance
- Glamorous image
- Weight control
- Enjoyment

The Smoking/Nicotine Habit - Is It?

- Addiction?
- Dependence?
- Habit?



Contents of Cigarettes

- Tobacco smoke contains over 7000 chemicals
 - Nicotine
 - Carbon Monoxide
 - Tar



Hydrogen cyanide
Gas chamber poison

Nicotine
Insecticide

Ethanol
Alcohol

Stearic acid
Candle wax

Formaldehyde
Preserve dead
bodies

Acetic acid
Vinegar

Arsenic
Poison



Ammonia
Toilet cleaner

Butane
Lighter
fluid



Acetone
Paint stripper

Cadmium
Batteries



Toluene
Industrial
solvent

Hexamine
BBQ lighter



Carbon monoxide
Car exhaust fumes

Methanol
Rocket fuel

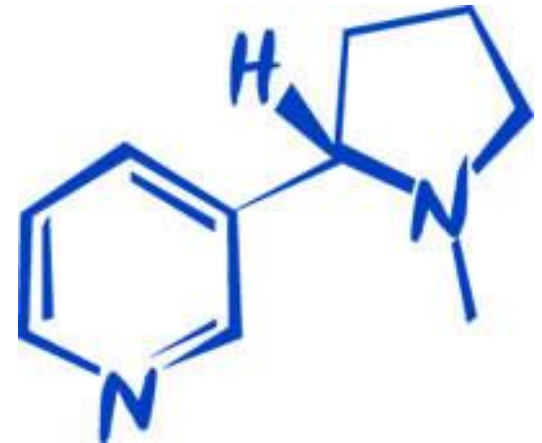


DDT/Deildrin
Insecticides



Immediate Effects of Nicotine

- Release of adrenaline into the bloodstream
 - Increased heart rate
 - Increased blood pressure
- Constricts arteries
- Release of dopamine



Addictive Nature of Nicotine

Dependency Nicotine > Heroin > Cocaine > Alcohol > Caffeine

Tolerance Nicotine = Heroin = Alcohol > Cocaine > Caffeine

Withdrawal Alcohol > Heroin > Nicotine = Cocaine > Caffeine

Deaths Nicotine > Alcohol > Cocaine = Heroin > Caffeine

Prevalence Caffeine > Nicotine > Alcohol > Cocaine = Heroin

Reasons for Giving up Smoking

Reasons for Giving up Smoking



- Health
- Family
- Social acceptance
- Workplace policies
- Health campaigns
- Economic
- Appearance
- Significant dates
- Sense of control

The Cost of Smoking

20 a day / 5 years = £26,880
(36,500 cigarette butts)



Health Benefits of Quitting

- 20 minutes Blood pressure & pulse return to normal
- 8 hours Nicotine & carbon monoxide levels in blood reduce by half, oxygen levels return to normal
- 24 hours Carbon monoxide will be eliminated from the body
- 48 hours There is no nicotine left in the body
- 3-9 months Coughs, wheezing & breathing problems improve as lungs clear
- 1 year Risk of a heart attack falls to half that of a smoker
- 10 years Risk of lung cancer falls to half that of a smoker



How to Motivate People to Think About Stopping?

Campaigns

- New Year's resolution
- Lent
- No Smoking Day / No Smoking Month
- 28 day Challenge
- Stoptober
- Other media campaigns

BEST CONTENT / IMPACT FOR THE INDIVIDUAL

Smoking Cessation

- Brief intervention can be effective(2%)
- Use of Nicotine Replacement Therapy can double the effectiveness of brief intervention advice
- Use of intensive support can further double the effectiveness

What Does a 2% Cessation Rate in N.I. Represent?

12% of adults in N.I. smoke



300,000 adults smoke



2% cessation rate by 3 minutes brief intervention



6000 adults could quit / year

The 4 A's & 2 R's Approach

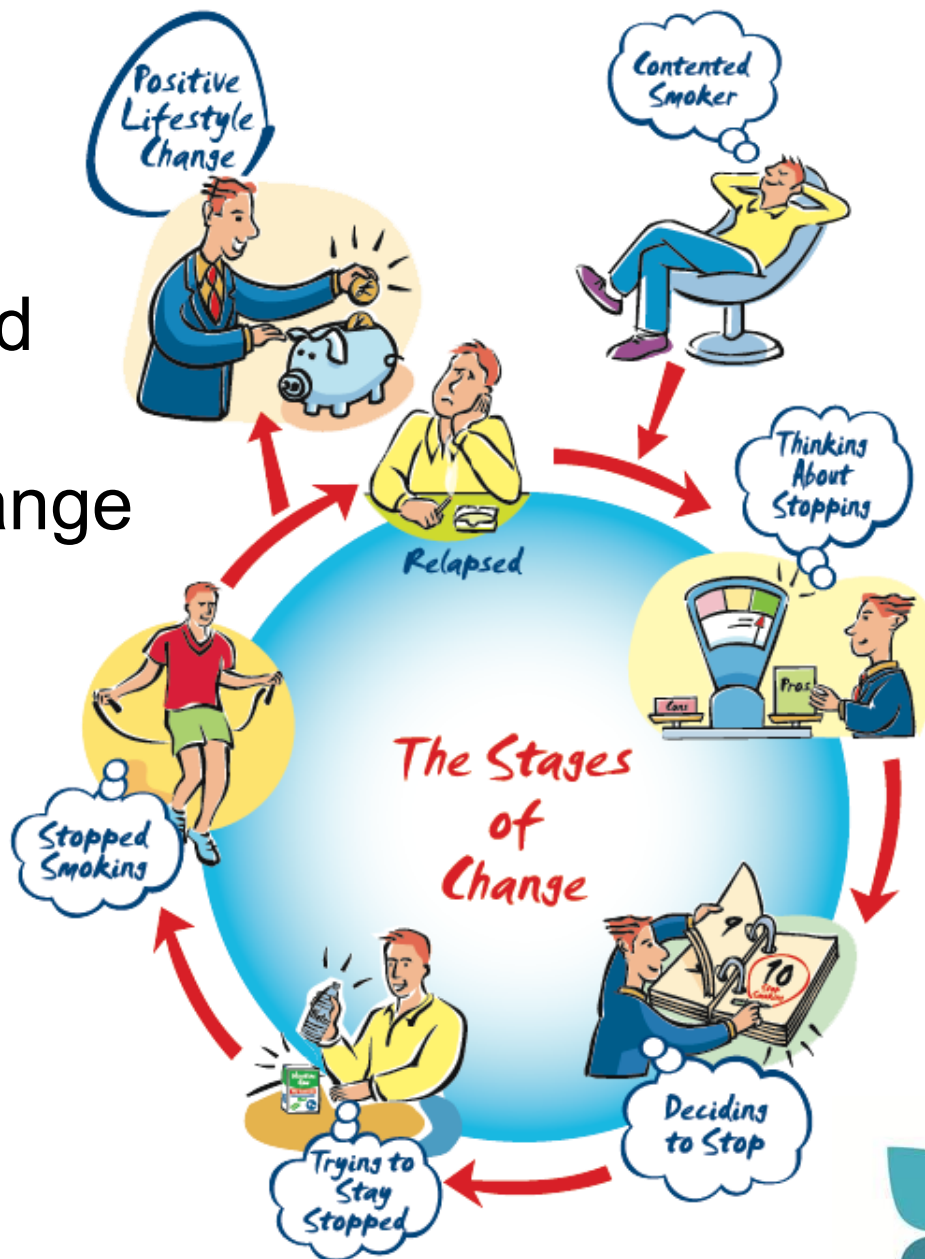
- **ASK** all smokers about their smoking at every opportunity
- **ADVISE** all smokers to stop
- **ASSIST** smokers to stop
- **ARRANGE** a follow up
- **RECOMMEND** using stop smoking aids
- **REFER** to further sources of support

Smoking Cessation Interventions and Their Rates

Brief intervention	2%
Brief intervention and NRT	6%
Smokers' clinic	10%
Smokers' clinic and NRT	20%
Pregnant women	7%
Support and Zyban	18%
Varenicline and support	22-23%

West et al (1998) Smoking cessation guidelines for health professionals. Thorax 53(1):1-19.

Prochaska and DiClemente Stages of Change model



Tips to Help Staying Stopped

- Delay acting on the urge to smoke
- Deep breathe
- Drink water
- Do something else
- Decide to think positively

First line drugs: Efficacy figures from US clinical guidelines

	OR (95%CI)	Abstinence rate
<u>PLACEBO</u>	1.0	13.8
<u>MONOTHERAPIES</u>		
Varenicline	3.1 (2.5-3.8)	33.2
High dose nicotine patch	2.3 (1.7-3.0)	26.5
Nicotine gum (>14 weeks)	2.2 (1.5-3.2)	26.1
BupropionSR	2.0 (1.8-2.2)	24.2
<u>COMBINATION THERAPIES</u>		
Patch + ad lib NRT	3.6 (2.5-5.2)	36.5
Patch + BupropionSR	2.5 (1.9-3.4)	28.9

Pilot Stop Smoking Service

Dunmurry Dental Practice – evening clinic/fortnightly

• Referrals from staff	29	
• Number of Quit Dates set	9	20
• Number Quit at 4 weeks	8 (88%)	16 (80%)

Cancer Focus NI 2016-2019 figures

Symptoms of Nicotine Withdrawal

	% Smokers	Duration
Irritability	50	<4 weeks
Depression *	60	<4 weeks
Poor concentration	60	<2 weeks
Restlessness	60	<4 weeks
Urges to smoke*	70	>2 weeks
Increased appetite	70	>10 weeks
Anxiety	50	<1 week
Light headedness	10	<48 hours
Night-time wakening	25	<1 week

* Predicts relapse

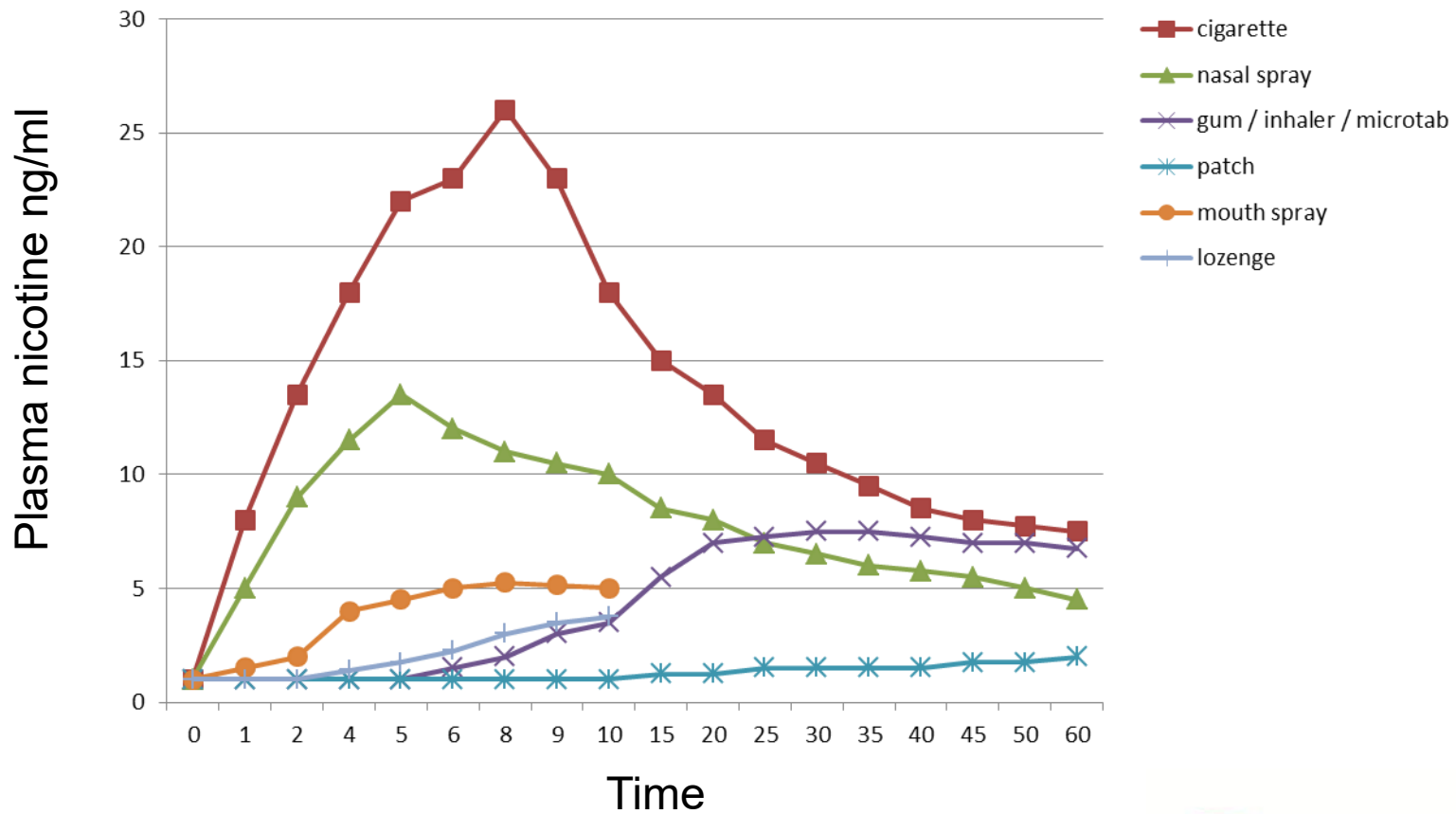
Physical signs of nicotine withdrawal

	% smokers	Duration
Drop in heart rate (8bpm avg)	> 80	Long-term
Decreased adrenaline	nk	Short-term
Decreased cortisol	nk	<4 weeks
Decreased tremor	> 80	Long-term
Decreased resting metabolic state	nk	Long-term
Increased skin temperature	> 80	Long-term
Decreased IgA	nk	<14 days
Decreased caffeine metabolism	> 80	Long-term
Constipation	10	> 4 weeks
Cold symptoms and mouth ulcers	10	Short-term
Increase in weight (6-8kgs avg)	> 80	Long-term

Stop Smoking Services – what you can do

- Brief Intervention
- Recording smoking status
- Referral to Stop Smoking Service
 - Hospital
 - GP Practice
 - Pharmacy
 - Community
- Resources – www.stopsmokingni.info, Stop smoking made easier/ Smoking – know the facts leaflet

Nicotine delivery



Royal College of Physicians, *Nicotine Addiction in Britain*, 2000 (adapted)

Nicotine Replacement Therapies

- Patches
- Gum
- Nasal Spray
- Inhalator
- Microtabs
- Lozenge
- Mouth Spray



Precautions When Using NRT

- Severe cardiac disease
- Hypertension
- Recent M.I.
- CVA
- Lactation & pregnancy
- Active peptic ulceration
- Diabetes mellitus

Side Effects of NRT

- Itching
- Local irritation
- Sleep disturbance
- Possible arrhythmias
- Angina

Bupropion SR (Zyban)

- The first non-nicotine prescription medicine to aid people stop smoking.
- Works directly on the areas of the brain responsible for addiction.
- Course of treatment 7 - 9 weeks.
- Patients are advised to complete whole course if no side effects occur.



Contra-indications to Zyban

- History of epilepsy
- History of eating disorders
- Bipolar disorder
- Pregnancy
- Breast feeding

Zyban - Precautions

- Increased risk of seizures for patients with
 - Previous head injury
 - Brain tumour
 - Alcohol abuse
 - Diabetes
- Renal or mild to moderate hepatic impairment
- Elderly
- Susceptibility to psychotic episodes

Varenicline

- Varenicline works on the $\alpha 4\beta 2$ receptors in the brain, blocking the effect of nicotine and encouraging dopamine release (reward)
- Regime
 - Day 1 - 3 0.5mg daily
 - Day 4 - 7 0.5mg bd
 - Day 8 - week 12 1mg bdQuit day 8-35



Contra-indications

- Hypersensitivity to Varenicline
- Under 18's
- Pregnancy

Precautions

- Epilepsy
- Psychiatric conditions

Side effects

- Nausea
 - Headache
 - Abnormal dreaming
 - Insomnia
-
- EAGLES Study looked at adverse events in clients with psychiatric and no psychiatric diagnosis – no statistical difference between varenicline and placebo results.

Cytisine

Cytisine is a safe and effective treatment, working in a similar way to varenicline, reducing urges to smoke as it attaches to the receptors in the brain – selective partial agonist to $\alpha 4\beta 2$ receptors.

Standard course of treatment 25 days. Evidence suggests it is as effective as NRT.

Instructions for use, each tablet contains 1.5mg of cytisine. One pack of Cytisine contains 100 tablets which is a complete treatment course (25 days). Cytisine should be taken with water according to the following schedule with the quit date no later than the fifth day of treatment.

Days of treatment	Recommended	Maximum dosing daily dose
From 1st to the 3rd day	1 tablet every 2 hours	6 tablets
From 4th to the 12th day	1 tablet every 2.5 hours	5 tablets
From 13th to the 16th day	1 tablet every 3 hours	4 tablets
From 17th to the 20th day	1 tablet every 5 hours	3 tablets
From 21st to the 25th day	1–2 tablets a day	2 tablets

Cytisine – current contra-indications

Not recommended for patients

- with renal (kidney) impairment
- with hepatic (liver) impairment
- over 65 years of age
- under 18 years of age

Due to lack of clinical experience and safety data.

- hypersensitivity to cytisine
- hypersensitivity to any of the excipients (non-active ingredients): mannitol, microcrystalline cellulose, magnesium stearate, glycerol dibehenate and hypromellose
- unstable angina (chest pain caused by reduced blood supply to the heart)
- had recent myocardial infarction (heart attack)
- clinically significant arrhythmias (irregular or abnormal heart rhythm)
- had a recent stroke
- pregnant or breastfeeding

Women of childbearing age using hormonal contraception should add a secondary barrier method whilst taking cytisine as its impact on the effectiveness of oral contraceptives is not known

Precautions

- ischaemic heart disease
- heart failure
- hypertension (high blood pressure)
- pheochromocytoma (tumour in the adrenal glands)
- atherosclerosis (thickening or hardening of the arteries) and other peripheral vascular diseases
- gastric and duodenal ulcer
- gastroesophageal reflux disease
- hyperthyroidism (overactive thyroid)
- diabetes
- schizophrenia

Drug interactions

- Should not be used with anti-tuberculosis drugs

For further information on possible interactions with smoking and best advice check

[Managing specific interactions with smoking – SPS - Specialist Pharmacy Service – The first stop for professional medicines advice](#)

Cessation Rates with Pharmacotherapy

% abstinent after
12 months

Smokers' clinic & NRT	20%
Motivational support & Zyban	18%
Varenicline and support	22-23%

Importance of Pharmacotherapy

- Fewer than 1 in 5 smokers making a quit attempt use NRT¹
- Using any NRT will double the chances of a person still not smoking after 12 months.
- Consider offering a combination of nicotine patches and another form of NRT...to people who show a high level of dependence on nicotine or who have found single forms of NRT inadequate in the past²

1.Cummings KM & Hyland A Annu Rev Public Health 2005; 26:583-599

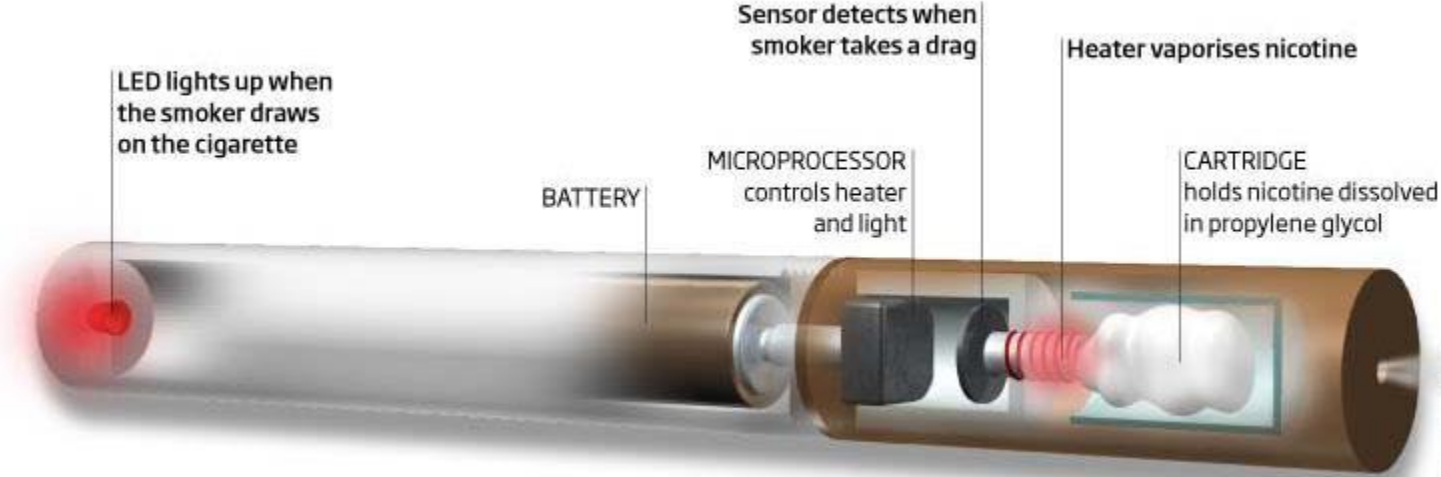
2.NICE PH010 Guidance, February 2008

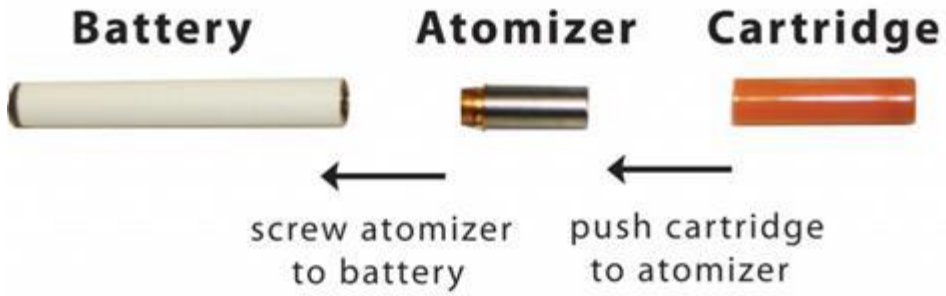
Importance of Pharmacotherapy

- Any Pharmacotherapy should be offered as first line of treatment (NICE).
- All products are available on prescription.

Nicotine Containing Products – ENDS

Electronic Nicotine Delivery System





Contents in general – 500 brands / 55,000 products registered

- nicotine 18/12/6/3/0mg (1/5 synthetic)
- propylene glycol PG – flavour carrying ingredient, throat hit
- vegetable glycerin VG - sweeter / thicker – vapour cloud
- water
- flavourings (8,000)

Generally recognised as safe (oral intake)



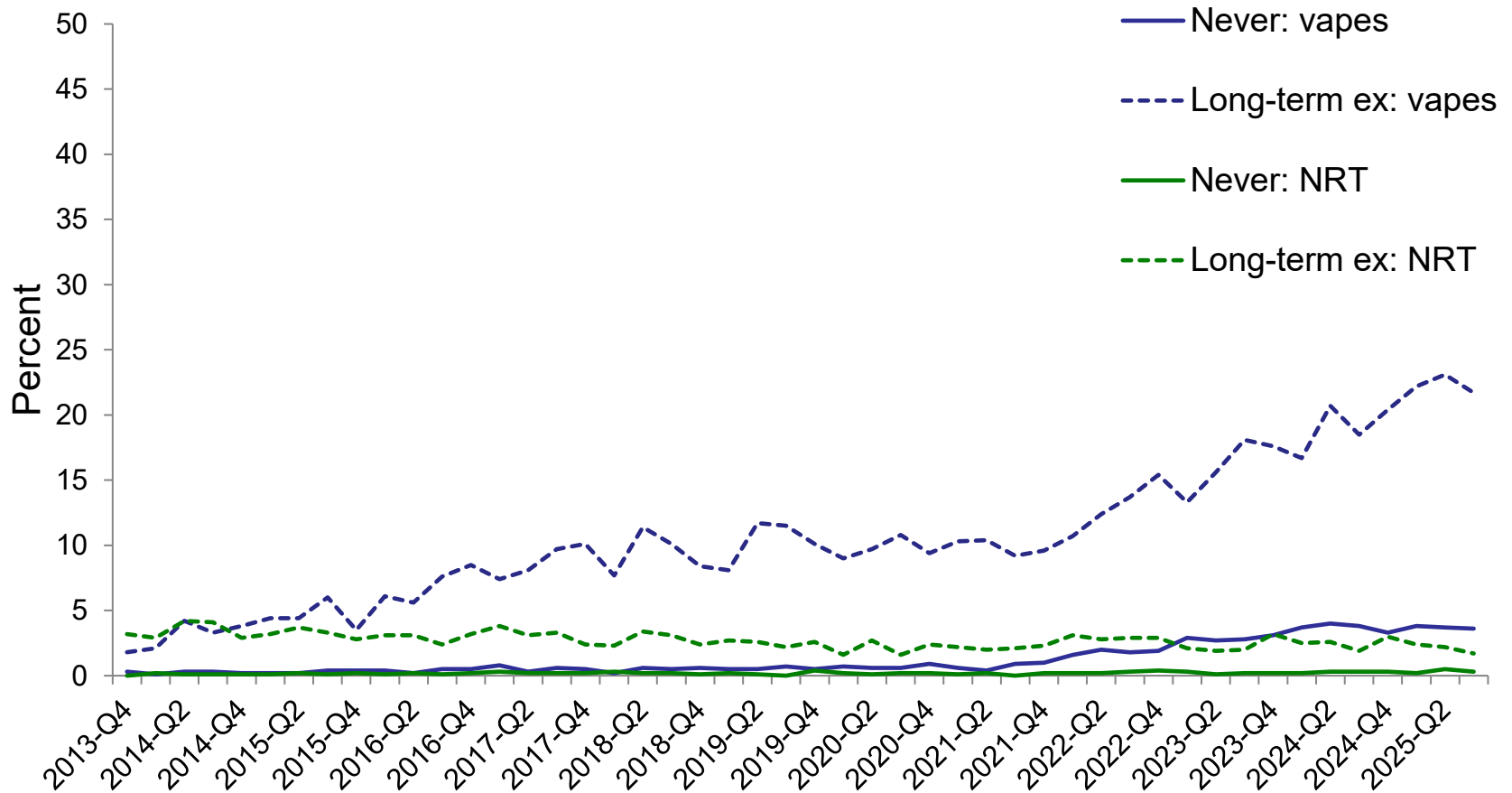
If user needs higher nicotine use 50:50 e liquid

If lower nicotine use higher VG 70:30/80:20 – clouds or subOhm vape

Electronic cigarettes

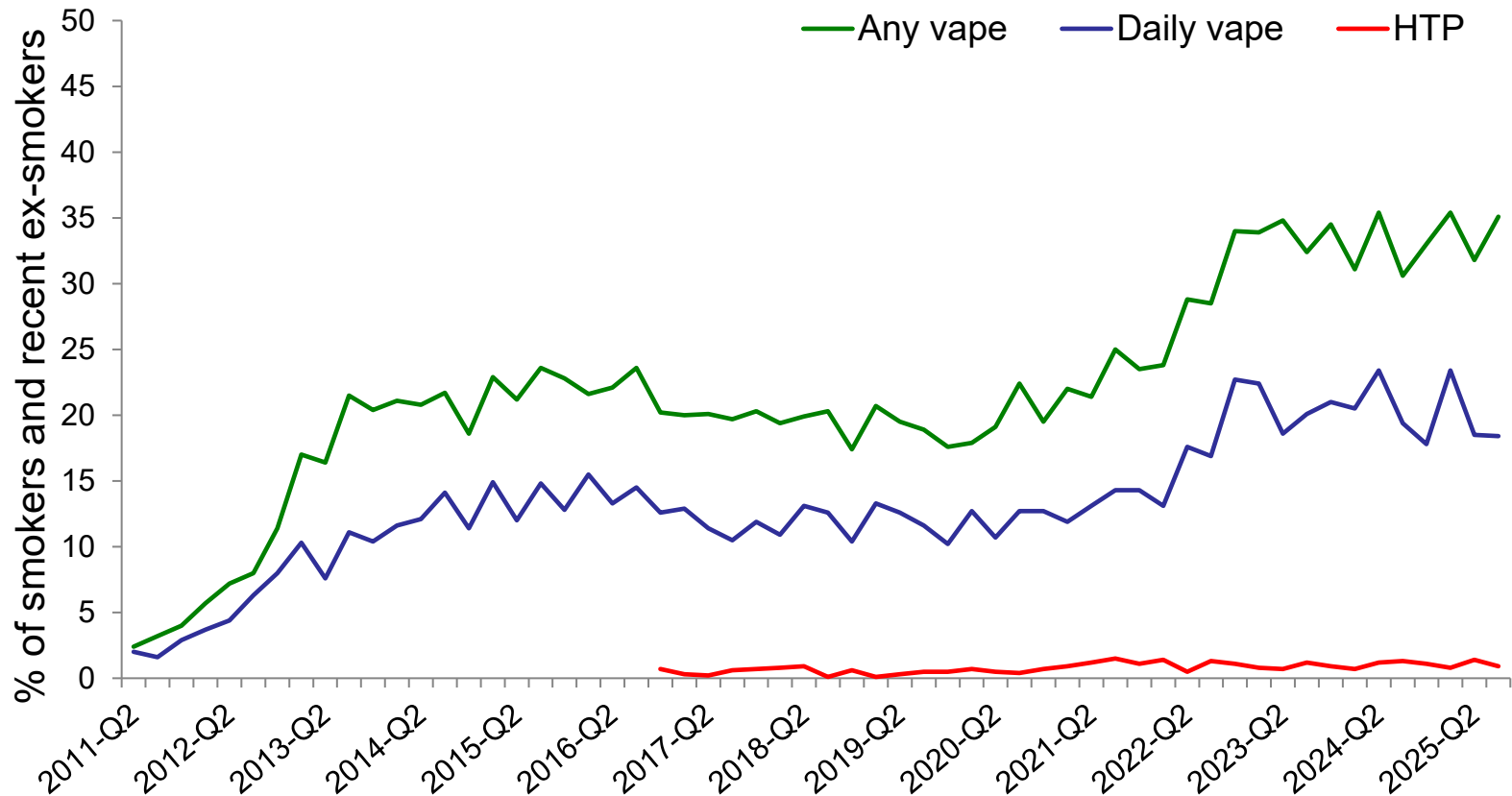
- MHRA regulates all nicotine-containing products
- NICE supports the use of licensed NCP's to help smokers cut down, for temporary abstinence and as a substitute for smoking.

Nicotine use by never smokers and long-term ex-smokers



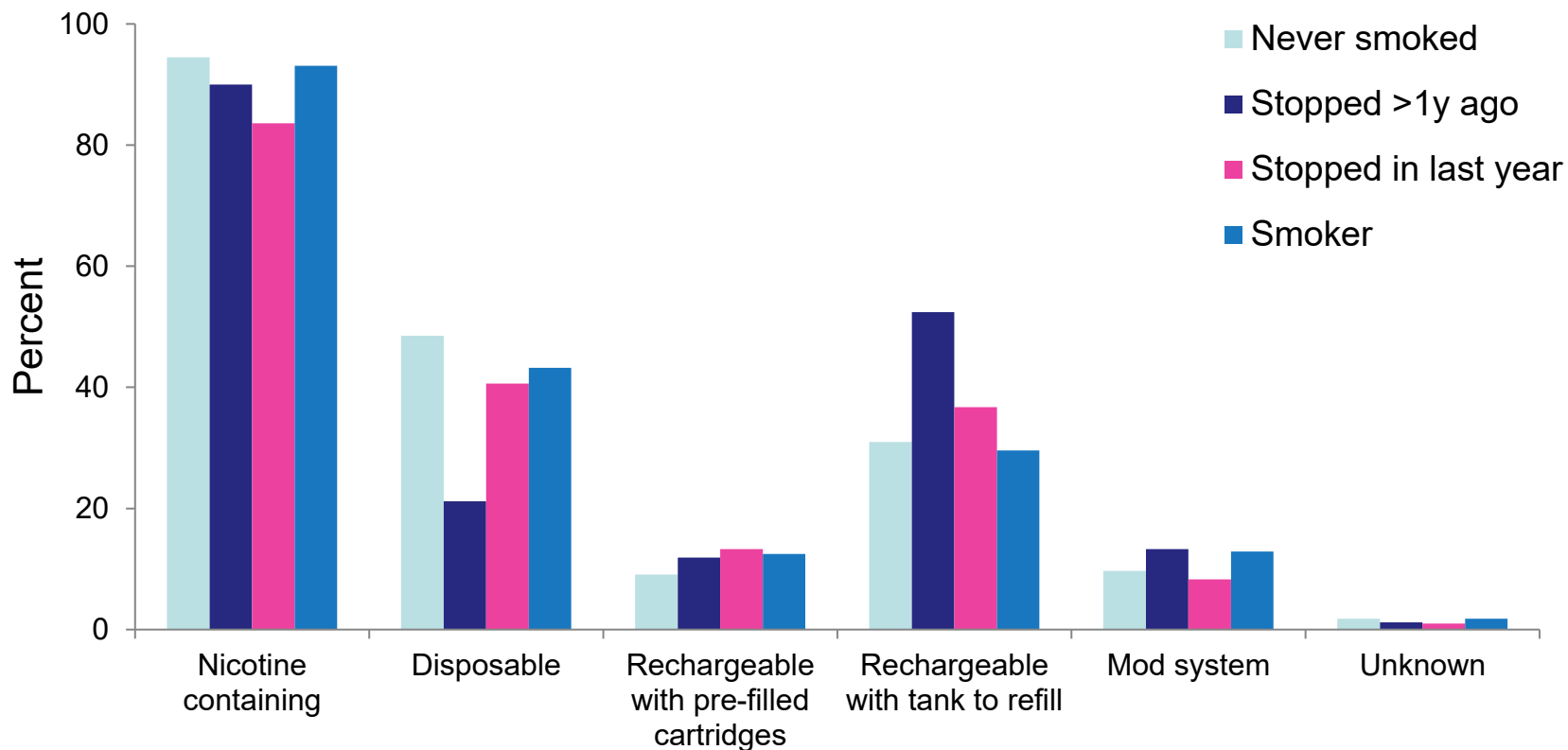
N=195401 never and long-term ex-smokers from Nov 13

Prevalence of novel nicotine delivery use: smokers and recent ex-smokers



N=58346 adults who smoke or who stopped in the past year (N=30983 asked about HTP)

Characteristics of vapes (2024)



N=2330 vapers (for nicotine-containing N=740), surveyed in 2024

Health Survey NI 2024-2025

- E-cig use in NI – 9% current users
- Male 10% Female 8%, Urban 11% / Rural 8%
- 15% use in more deprived areas; 8% use in least deprived areas
- Of these, 56% are current smokers (dual users) (2017-18)
- 3% of e-cig users are never smokers (2023-24)

- 72% of those currently using an e-cig that used to smoke have quit for more than 6 months (2015-16)
- 45% of those who had used an e-cig said it had helped them quit tobacco completely (2018-19)

A Randomised Trial of E-Cigarettes versus Nicotine-Replacement Therapy

January 31, 2019 Lancet Vol. 380 No. 5

Peter Hajek, Ph.D., Anna Phillips-Waller, B.Sc., Dunja Przulj, Ph.D., Francesca Pesola, Ph.D., Katie Myers Smith, D.Psych., Natalie Bisal, M.Sc., Jinshuo Li, M.Phil., Steve Parrott, M.Sc., Peter Sasieni, Ph.D., Lynne Dawkins, Ph.D., Louise Ross, Maciej Goniewicz, Ph.D., Pharm.D.

- 1-year abstinence rate was 18.0% in the e-cigarette group compared with 9.9% in the nicotine-replacement group
- Among participants with 1-year abstinence, e-cigarette group were more likely than those in the nicotine-replacement group to use their assigned product at 52 weeks (80% vs. 9%).

NI advice

The Public Health Agency (PHA) has issued advice on e-cigarettes to help people make informed decisions.

Monday 20th March 2023 – Health and Social Wellbeing Improvement

[Public Health Agency \(PHA\) advice to help people make informed decisions on e-cigarettes | HSC Public Health Agency \(hscni.net\)](#)

E-cigarettes (vapes) are not licensed as medicines for smoking cessation by the MHRA

E-cigarettes **will therefore not be offered** as a cessation aid within PHA-commissioned services

General health risk?

- 500 different brands and 8000 different flavours

Higher risk identified in studies
Some brands
Some flavours
High voltage devices
Second half of vaping period
Overheating
'dripping'
'dry puff' conditions
The state of the heating element
The vaporiser
Vehicle / carrier – ethylene glycol, propylene glycol

What can we say / What can we not say?

- Safer than tobacco
- Some e cigs (tank versions) may support quitting
- Some young people are using e cigs as a fashion accessory
- People are trying e cigs over NRT or Stop Smoking Services (West 2016)
- Not completely safe
- Not all e cigs will support a quit attempt
- Some evidence says young people who try an e cig will move to tobacco (not consistent)

WHO Europe

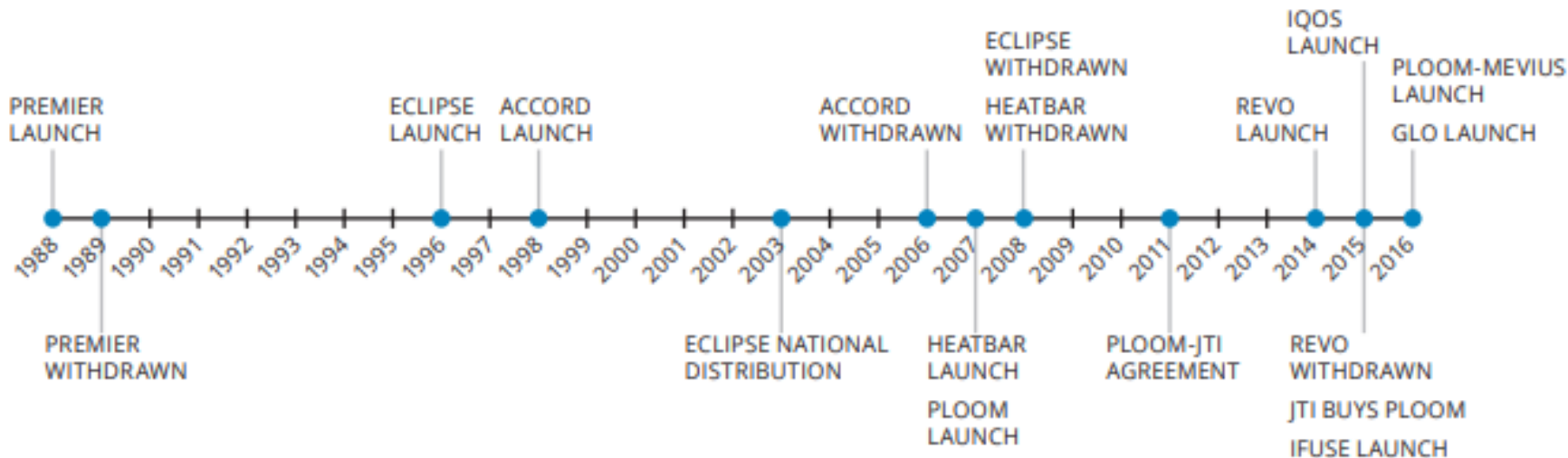
Heated tobacco products (HTPs) are tobacco products that produce an emission containing nicotine and other chemicals, which is then inhaled by users. HTPs are marketed as potentially reduced-exposure products, or even as modified-risk tobacco products.

Currently there is insufficient evidence to conclude that HTPs are less harmful than conventional cigarettes. In fact, there are concerns that while they may expose users to lower levels of some toxicants than conventional cigarettes, they also expose users to higher levels of other toxicants. It is not clear how this toxicological profile translates into short- and long-term health effects.

The Conference of the Parties to the WHO Framework Convention on Tobacco Control (WHO FCTC) recognises HTPs as tobacco products and therefore considers them to be subject to the provisions of the WHO FCTC

HTPs

- contain tobacco and are tobacco products
- do not help smokers to end tobacco use
- emit toxic emissions similar to those in cigarette smoke, many of which can cause cancer
- expose users to toxic emissions, some of which are specific to HTPs and which could also expose bystanders
- contain toxicants – though generally lower than those found in conventional cigarettes – this may not translate to a reduction in health harms; the levels of some toxicants are higher and there are new substances absent in tobacco smoke which could potentially harm human health
- contain nicotine, which is highly addictive, at levels similar to conventional cigarettes
- have an unknown long-term health impact in terms of their use and exposure to their emissions, and because there is currently insufficient independent evidence on the relative and absolute risk, independent studies are needed to determine the health risk they pose to users and bystanders



Nicotine pouches

Nicotine pouches are an alternate to smoking and vaping to use nicotine in a less harmful way (possibly) - give you a great nicotine kick, with their own flavours. All of them are tobacco-free and made out of natural ingredients.



Sources of support

- www.stopsmokingni.info
- Quit kits (not available)
- Pharmacy
- GP
- Community
- Trust
- Hospital

N.I. Services 2024-25 – 23%

	Community clinic		GP Practice		Hospital		Pharmacist		Other	
	N	%	N	%	N	%	N	%	N	%
Total number setting a quit date	626		92		1524		6857		488	
Successful @ 4 week follow-up		61%		27%		73%		55%		64%

Successes in Stopping Happen When:



- The person is ready to stop.
- They understand their smoking pattern and reasons for smoking.
- Know why they want to stop smoking now.
- Are prepared for how they will feel when they stop.
- Have developed coping strategies.
- Make staying stopped a priority.
- See themselves as non-smokers rather than ex-smokers.

Further Information

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