

NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

PUBLIC HEALTH DRAFT GUIDANCE

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Mass-media and point-of-sales measures to prevent the uptake of smoking by children and young people

NICE public health guidance X

Introduction

The Department of Health (DH) asked the National Institute for Health and Clinical Excellence (NICE or the Institute) to produce public health guidance on how to prevent the uptake of smoking by children and young people. This guidance focuses on mass-media and point-of-sales measures.

The guidance is for those who have a direct or indirect role in, and responsibility for, preventing children and young people aged under 18 from taking up smoking. This includes those working in the NHS, local authorities, the criminal justice system and the wider public, private, voluntary and community sectors. It may also be of interest to those working in mass media and members of the public.

The guidance complements and supports, but does not replace, NICE guidance on: brief interventions for smoking cessation; workplace smoking cessation; smoking cessation services for hard to reach groups; and varenicline for smoking cessation (for further details, see section 7).

The Public Health Interventions Advisory Committee (PHIAC) has considered both the review of the evidence and the economic appraisal.

This document sets out the preliminary recommendations developed by the Committee. It does not include all the sections that will form part of the final guidance. The Institute is now inviting comments from stakeholders (listed on the NICE website at: www.nice.org.uk).

Preventing the uptake of smoking by children and young people
consultation draft

Note that this document does not constitute the Institute's formal guidance on mass-media and point-of-sales measures to prevent the uptake of smoking by children and young people. The recommendations made in section 1 are provisional and may change after consultation with stakeholders and fieldwork.

The process the Institute will follow after the consultation period (which includes fieldwork) is summarised below. For further details, see 'The public health guidance development process: An overview for stakeholders including public health practitioners, policy makers and the public' (this document is available on the Institute's website at: www.nice.org.uk/phprocess).

- The Committee will meet again to consider the consultation comments, the fieldwork reports and the stakeholder evidence.
- After that meeting, the Committee will produce a second draft of the guidance.
- The draft guidance goes to the NICE Guidance Executive for final sign-off.

The key dates are:

Closing date for comments: 18 April 2008.

Second Committee meeting: 9 May 2008.

Details of PHIAC membership are given in appendix A and key supporting documents used in the preparation of this document are listed in appendix E.

This guidance was developed using the NICE public health intervention process.

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1 Recommendations

The Public Health Interventions Advisory Committee (PHIAC) considered the evidence of effectiveness and cost effectiveness in drafting the recommendations. Note: this document does not constitute the Institute's formal guidance on these interventions. The recommendations are preliminary and may change after consultation.

Please also note: PHIAC has considered a range of other issues linked to tobacco sales and promotion and these have been referred to the Institute for further discussion with the Department of Health.

The evidence statements underpinning the recommendations are listed in appendix C. A brief description of the interventions is given below, immediately before the list of recommendations.

The evidence reviews, supporting evidence statements and economic analysis are available on the Institute's website at

www.nice.org.uk/smokingandchildren

Interventions

- Mass-media interventions use a range of methods to communicate a message. This can include local, regional or national television and radio, newspapers, leaflets and booklets. It can also include new media. (In this document, 'new media' refers to communication via the Internet or mobile phone. On the Internet, it can involve anything from real-time streaming of information and podcasts, to discussions with experts and the use of social networking sites.) The aim of mass-media interventions is to reach large numbers of people without being reliant on face-to-face contact.
- Point-of-sales interventions take place at the point where tobacco could be sold. (These interventions primarily aim to deter shopkeepers from making illegal sales.)

Mass-media and point-of-sales interventions are two strategies for preventing the uptake of smoking among children and young people aged under 18. They

are usually combined with other prevention activities as part of a comprehensive tobacco control strategy. (The US Surgeon General, World Health Organization and others define a comprehensive tobacco control strategy as one that includes price and regulation policies, education programmes, cessation support services and local activities. It is also sufficiently extensive and sustained to have a reasonable chance of success.)

When implementing the recommendations, careful consideration should be given to the potential impact on health inequalities.

Mass media

Recommendation 1

Who is the target population?

Children and young people aged under 18.

Who should take action?

- Organisers and planners of national, regional and local public education and communications campaigns.
- Local and regional commissioners and planners with a remit to prevent the uptake of smoking among children and young people aged under 18. This includes those working in the NHS and local authorities.

What action should they take?

- Develop and deliver a national, regional or local mass-media campaign to prevent the uptake of smoking among young people aged under 18, for example, by reducing the attractiveness of tobacco and generally making smoking socially unacceptable. The campaign should not be developed or delivered in conjunction with (or supported by) the tobacco industry. It should:
 - be informed by research that identifies and understands the target audiences

- be developed in partnership with national, regional and local government and non-governmental organisations and the NHS (at national, regional or local level, as appropriate)
- consider groups that research indicates have higher rates of smoking than the average, or where smoking prevalence is rising (for example, young women and young people in disadvantaged circumstances)
- feature messages that are repeated in a number of ways
- use advertisements that are regularly updated and run over 3–5 years (and which consistently attract and influence children and young people)
- use personal testimonials that children and young people can relate to
- use messages that empower children and young people to refuse offers of cigarettes
- include advertisements that elicit an emotional reaction (for example, fear)
- include advertisements that portray tobacco as a deadly product, not just as a drug that is inappropriate for children and young people to use
- include graphic images that portray smoking's detrimental effect on health as well as appearance (for example, its effect on the appearance of skin and teeth)
- use news coverage, posters, brochures and other materials to promote the campaign. This includes generating news by writing articles, commissioning newsworthy research and issuing press releases. It also includes enlisting the support of healthcare professionals, public relations agencies and local anti-tobacco activists
- use strategic and pre- and post-testing qualitative and quantitative research with the target audiences and process measures to ensure campaigns are being delivered as intended. For recommendations on the principles of

evaluation, see 'Behaviour change at population, community and individual levels' (NICE public health guidance 6)

- contribute to changing society's attitude towards tobacco use so that smoking is not considered the norm by any group
 - involve working in partnership with media professionals and using best practice methods employed by them.
- National campaigns should exploit the full range of media used by children and young people, especially television advertising.
 - Regional and local campaigns should build on, and be integrated with, a national communications strategy to tackle tobacco use. They should use regional and local press and radio to reach specific audiences and to get unpaid coverage in the press. They should also use regional and local networks to generate as much publicity as possible.

Illegal sales

Recommendation 2

Who is the target population?

Children and young people aged under 18.

Who should take action?

National government.

What action should they take?

- Support better enforcement of existing legislation by:
 - ensuring local authorities enforce current legislation to prevent under-age tobacco sales, in accordance with their statutory role and best practice
 - ensuring all local authorities undertake regular audits of test purchasing to ensure consistent practice and enforcement
 - building on current education and training programmes for trading standards officers

- working through government agencies and national organisations to ensure retailers and others, such as publicans, are aware of the legislation on under-age sales, including from vending machines
 - ensuring magistrates have access to, and are aware of the most effective measures to deter retailers from making under-age sales.
- Ensure efforts are sustained over a number of years.

Recommendation 3

Who is the target population?

Retailers.

Who should take action?

Local authorities and trading standards bodies.

What action should they take?

- Ensure retailers are aware of legislation banning under-age sales by:
 - providing practical guidance on how to avoid illegal sales
 - encouraging them to request and verify proof of age for anyone who appears younger than 18 who attempts to buy cigarettes. (Examples of proof of age include a passport or driving licence)
 - encouraging them to complete the ‘Age restricted products refusal register’ for each tobacco sale refused on the grounds of age
 - running publicity campaigns, which could include highlighting where tobacco is being sold illegally, details of successful local prosecutions, the possible fines that retailers can face and health information.
- Make it as difficult as possible for young people aged under 18 to get cigarettes and other tobacco products. In particular, exercise a statutory

duty under the Children and Young Persons (protection from tobacco) Act 1991 to prevent under-age sales by:

- prosecuting retailers who persistently break the law
 - taking enforcement action if vending machines are being used by children and young people aged under 18
 - undertaking test purchases each year to detect breaches in the law. Audit test purchases regularly to ensure consistent practice across all local authorities.
-
- Ensure the owners of vending machines and those who have them on their premises take all reasonable precautions to prevent under-age people using them, in accordance with the law. Give practical advice on how to avoid illegal sales via vending machines by, for example, locating them where they can be controlled or supervised.
 - Work with the police and other agencies to identify areas where under-age tobacco sales are a particular problem.
 - Assess whether an advocacy campaign is needed to support enforcement. Any such campaign should be run in accordance with best practice and provide a clear, published statement on how to deal with under-age tobacco sales.
 - Actively discourage enforcement and related campaigns developed by the tobacco industry.
 - Ensure efforts are sustained over a number of years.

2 Public health need and practice

The cost of smoking is high. In health terms, it is responsible for an estimated 120,000 premature deaths in the UK each year: 46,000 from cancer, 40,000 from circulatory disease and 34,000 from respiratory disease. It is also responsible for a range of other diseases and conditions, including impotence and infertility (Callum 1998).

Smoking has been identified as the primary reason for the gap in life expectancy between rich and poor. Among men, it is responsible for more than half the difference in the risk of premature death between the social classes (Jarvis and Wardle 2006).

Children who smoke become addicted to nicotine very quickly. They also tend to continue the habit into adulthood. Around two-thirds of people who have smoked took up the habit before the age of 18 (The Information Centre 2006). Because the risk of disease is related to the length of time a person has smoked, people who take up smoking before the age of 18 face a greater-than-average risk of developing lung cancer or heart disease (Royal College of Physicians 1992).

Children and young people who smoke are two to six times more susceptible to coughs, increased phlegm and wheezing than their non-smoking peers (Royal College of Physicians 1992). The habit can impair the growth of their lungs and is also a cause of asthma-related symptoms in childhood and adolescence (Muller 2007).

In recent years, little progress has been made to reduce the number of children aged 11–15 who take up smoking. Between 1982 and 1998 the proportion who smoked regularly¹ fluctuated between 8% and 13%. Since 1999, rates have remained steady at between 9% and 10%. In 2006 in England, 9% of 11–15 year olds said they smoked regularly – equivalent to more than a quarter of a million young people. Among young people aged 16–

¹ Regular smoking among young people aged 11–15 is defined as one or more cigarettes a week.

19, 26% smoked regularly² – equivalent to nearly three quarters of a million young adults (Office for National Statistics 2006; The Information Centre 2007).

Up to age 13, boys and girls are equally likely to smoke on a regular basis. However, from age 14 girls take the lead: 14% of girls aged 14 and 25% of girls aged 15 smoke regularly (compared with 10% and 16% of boys, respectively) (The Information Centre 2007).

The highest prevalence of smoking is among people aged 20–24 (37% of men and 30% of women) accounting for more than one million young adults (The Information Centre 2006).

Access to cigarettes

Children and young people usually get cigarettes from friends, family and shops, especially small corner shops. However, they also buy them from adults who sell them from their own homes and from others involved in organised criminal activities.

In a 2004 survey of more than 9000 pupils in 313 schools across England, 66% of children aged 11–15 who smoked currently had bought cigarettes from a shop. Just over half (52%) said they had been refused a purchase at least once. Sixty three per cent of children and young people who smoked were also likely to have been given cigarettes by friends (58%) or by siblings (13%) (The Information Centre 2006).

Factors associated with smoking

The factors associated with the uptake of smoking include environmental, sociodemographic, behavioural and individual characteristics. Having a parent or sibling who smokes is particularly strongly associated with uptake, as is parents' approval or disapproval of the habit (Goddard 1992; Stead et al. 1996). Tobacco use in adolescence is associated with many other behaviours that can adversely affect health, including the use of alcohol or other drugs (The Information Centre 2007). Pupils who have recently smoked, drunk

² Regular smoking among adults aged 16+ is defined as one or more cigarettes per day. Preventing the uptake of smoking by children and young people
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alcohol, or used cannabis, volatile substances or class A drugs were likely to have used one of the other substances. The strongest relationship is between recent use of cannabis and cigarettes (The Information Centre 2006). Regular smoking is more prevalent among adolescents who have truanted or been excluded from school compared with those who have not (The Information Centre, 2007).

Preventing the uptake of smoking

Over the past 50 years it has become evident that a comprehensive approach is needed to prevent the uptake of tobacco use and reduce its prevalence. It should include regulatory, economic, educational, clinical and social strategies. It has also become evident that children and young people are not only affected by interventions directed at them (such as age restrictions) but also by policies addressing adult tobacco use. Indeed, the influence of adults on their smoking habits (especially the influence of their parents and older siblings) can be profound.

As a result, all policy areas that affect adult decisions to smoke or quit also affect children's decisions in relation to smoking. In this context, some types of intervention will have a greater or more immediate effect than others (for example, price increases compared with educational measures). However, it is not a question of choosing one type of intervention over another but, rather, involves employing a range of interventions and ensuring they are all carried out in the most effective way.

Costs

The treatment of smoking-related diseases costs the NHS an estimated £1.5 billion each year (Parrott et al. 1998). In addition, smoking costs industry around £5 billion each year in terms of lost productivity, higher rates of absenteeism among people who smoke and fire damage (Parrott et al. 2000).

Policy and legal background

The following policies and legislation are relevant when preventing the uptake of smoking among children and young people.

- The Children and Young Persons (protection from tobacco) Act 1991 updated the original 1933 law which made it illegal to sell cigarettes to young people under the age of 16. In 1991, the law was amended to ban the sale of any tobacco product to those under the age of 16 and to make it illegal to sell single cigarettes. Under this legislation, local authorities are obliged, once a year, to consider whether or not they should introduce a local enforcement programme. From October 2007, the age of legal purchase was increased from 16 to 18 years (Children and Young People [sale of tobacco etc.] Order 2007). Except for the legal age of purchase warnings which are required on vending machines, the other provisions of the 1991 Act remain the same.
- The tobacco white paper 'Smoking kills' (DH 1998) set out a number of steps to help protect children and young people from smoking:
 - minimal tobacco advertising in shops
 - tough enforcement on under-age sales
 - proof-of age card requirement
 - strong rules on the siting of cigarette vending machines.

Helping shopkeepers comply with existing regulations was a first priority. The government also indicated that a new 'enforcement protocol' would be developed to help local authorities carry out their duty under the 1991 Act. There is no statutory obligation on local authorities to carry out an enforcement campaign. However, the Local Government Association, Local Authorities Coordinators of Regulatory Services (LACORS) and government agree that all local authorities should assess the need for such a campaign. Where it is introduced, they believe it should be run in accordance with best practice. Together, they plan to draw up a detailed protocol of best practice for the UK, although the deadline for completion is not known.

When the legal age of tobacco purchasing was changed in 2007, the Department of Health issued a toolkit to help retailers fulfill their obligations under the law. In April 2006, LACORS published a practical guide for those

organisations undertaking test purchases with young people on all age-restricted products.

3 Considerations

PHIAC took account of a number of factors and issues in making the recommendations.

- 3.1 Mass-media and point-of-sales interventions are two strategies for preventing the uptake of smoking among children and young people aged under 18. These need to be combined with other prevention activities to form part of a comprehensive tobacco control strategy that includes policies on price and regulation, education programmes, cessation support services and local activities. They should also be sufficiently extensive and sustained to have a reasonable chance of success.
- 3.2 In addition, different elements of a broad, multi-faceted approach to prevent and reduce smoking may work synergistically. For example, mass-media campaigns targeted at children and young people may also have a positive effect on adults. Similarly, campaigns aimed at adults may influence children and young people.
- 3.3 Areas outside the scope of this guidance include policies on tobacco pricing and smuggled cigarettes, and family, education, social, community and school-based interventions. In addition, the scope excluded interventions to help children and young people quit smoking or to discourage or reduce the uptake of tobacco chewing and smokeless tobacco.
- 3.4 Smoking is dangerous at any age, but the earlier someone starts, the more likely they are to smoke for longer and to die earlier from a related condition or disease.
- 3.5 As the risk of disease is related to the overall length of time someone has smoked, PHIAC considers that delaying the onset of smoking is a worthwhile goal. Indeed, it may help stop some people taking up smoking at all. However, it is not known whether or not

mass-media campaigns or access restrictions delay (rather than prevent) someone from taking up smoking (that is, no studies were identified).

- 3.6 Most of the effectiveness review studies were conducted in the US. However, PHIAC judged that some of the evidence was sufficiently applicable to England to inform the recommendations.
- 3.7 There was a paucity of evidence on how mass-media interventions and access restrictions on tobacco sales affect children and young people according to their socioeconomic status (and other measures related to health inequalities).
- 3.8 The assumptions made in the economic modelling were conservative, so that any change to the variables would improve the cost effectiveness of both mass-media campaigns and point-of-sales measures.
- 3.9 Local authorities do not have a duty to undertake test purchases to detect breaches in the law on under-age tobacco sales. While most local authority trading standards (LATS) departments do carry out tobacco test purchases, they often take second place to alcohol. If the resources available for tobacco test-purchasing matched those for alcohol, more under-age tobacco sales could be prevented. PHIAC was advised that resources to undertake this work were scarce and prosecutions were quite rare. Where successful, the fines imposed were often small.
- 3.10 Although PHIAC recognises the need to enforce the law on under-age tobacco sales, it is concerned that children and young people may, as a result, turn to illicit sources. Controlling their access to illicit cigarettes is crucial – particularly as it may also expose them to other drugs and illegal activities.
- 3.11 Smuggled and cheap tobacco erodes efforts to discourage people from taking up or stopping smoking, particularly those who are from

deprived communities. PHIAC is also concerned about the ease with which children and young people can purchase smuggled cigarettes.

- 3.12 Vending machines remain a popular source of cigarettes for people aged under 18, despite legislation relating to under-age sales. They may become a more important source of cigarettes if other sources are more restricted. They will be the subject of a DH consultation in spring 2008. This may explore a variety of options – from making them token- or credit card-operated to banning them altogether. PHIAC welcomes consultation on the full range of options.
- 3.13 Tobacco sales can be licensed using a positive or a negative system. Under a negative scheme, a retailer caught selling cigarettes to people who are under-age can lose the right to sell tobacco for a set period of time. Under a positive scheme, the retailer's tobacco licence can be suspended or revoked. If it is revoked, the retailer has to reapply for a licence at a later date (after a minimum period, which could be fixed). If a licensing system was introduced with fixed penalty fines, then enforcement officers could also issue an on-the-spot fine. If the offence was particularly serious or had been repeated, then court proceedings could be instituted.
- 3.14 PHIAC was advised that tobacco products are, in effect, being promoted via point-of-sale displays. Options to overcome such promotions might include: moving all tobacco products out of sight (for example, by storing them in cabinets under the counter), restricting the amount of product that can be seen, or placing limits on how near they can be placed to shop exits. PHIAC welcomes inclusion of these issues as part of the DH consultation mentioned above.
- 3.15 The recommendations on mass media campaigns outline the general principles that underpin an effective anti-tobacco

communications campaign, including the need for evaluation to ensure they achieve the outcomes intended.

- 3.16 PHIAAC noted that it was likely that only national organisations would run mass-media campaigns that include TV advertising, because the cost of developing and running such a campaign at local or regional level could be prohibitive.
- 3.17 PHIAAC considers that national, anti-tobacco mass-media campaigns, supported by local activities, can play an important role in changing society's attitude towards tobacco use.
- 3.18 New media offers potential benefits as part of a mass-media campaign. PHIAAC notes that these benefits need to be evaluated – and that the methods used for delivering messages may need to change over time to reflect changing technology.

This section will be completed for the final guidance document.

4 Implementation

NICE guidance can help:

- Local authorities (including social care and children's services) and NHS organisations meet the requirements of the government's 'National standards, local action, health and social care standards and planning framework 2005–2008'.
- National and local organisations within the public sector meet government indicators and targets to improve health and reduce health inequalities.
- Local authorities fulfil their remit to promote the economic, social and environmental wellbeing of communities.
- Local NHS organisations, local authorities and other local public sector partners benefit from any identified cost savings, disinvestment opportunities or opportunities for re-directing resources.

- Provide a focus for children's trusts, health and wellbeing partnerships and other multi-sector partnerships working on health within a local strategic partnership.
- NHS organisations meet DH standards for public health as set out in the seventh domain of '[Standards for better health](#)' (updated in 2006). Performance against these standards is assessed by the Healthcare Commission and forms part of the annual health check score awarded to local healthcare organisations.

NICE will develop tools to help organisations implement this guidance. Details of the tools will be available on our website after the guidance has been issued (www.nice.org.uk/PHXXX).

5 Recommendations for research

This section will be completed in the final guidance document.

More detail on the evidence gaps identified during the development of this guidance is provided in appendix D.

6 Updating the recommendations

This section will be completed in the final guidance document.

7 Related NICE guidance

Smoking cessation services in primary care, pharmacies, local authorities and workplaces, particularly for manual working groups, pregnant women and hard to reach communities. NICE public health guidance 10 (2008). Available from: www.nice.org.uk/PH010

Behaviour change at population, community and individual levels. NICE public health guidance 6 (2007). Available from: www.nice.org.uk/PH006

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The Information Centre (2007) *Drug use, smoking and drinking among young people in England 2006*. Leeds: The Information Centre.

Appendix A: membership of the Public Health Interventions Advisory Committee (PHIAC), the NICE Project Team and external contractors

Public Health Interventions Advisory Committee (PHIAC)

NICE has set up a standing committee, the Public Health Interventions Advisory Committee (PHIAC), which reviews the evidence and develops recommendations on public health interventions. Membership of PHIAC is multidisciplinary, comprising public health practitioners, clinicians (both specialists and generalists), local authority employees, representatives of the public, patients and/or carers, academics and technical experts as follows.

Professor Sue Atkinson CBE Independent Consultant and Visiting Professor, Department of Epidemiology and Public Health, University College London

Mr John F Barker Children's and Adults' Services Senior Associate, Regional Improvement and Efficiency Partnership

Professor Michael Bury Emeritus Professor of Sociology, University of London. Honorary Professor of Sociology, University of Kent

Professor Simon Capewell Chair of Clinical Epidemiology, University of Liverpool

Professor K K Cheng Professor of Epidemiology, University of Birmingham

Ms Jo Cooke Director, Trent Research and Development Support Unit, School for Health and Related Research, University of Sheffield

Dr Richard Cookson Senior Lecturer, Department of Social Policy and Social Work, University of York

Mr Philip Cutler Forums Support Manager, Bradford Alliance on Community Care

Professor Brian Ferguson Director, Yorkshire and Humber Public Health Observatory

Professor Ruth Hall Regional Director, Health Protection Agency, South West

Ms Amanda Hoey Director, Consumer Health Consulting Limited

Mr Alasdair J Hogarth Head Teacher, Archbishops School, Canterbury

Mr Andrew Hopkin Assistant Director, Local Environment, Derby City Council

Dr Ann Hoskins Deputy Regional Director of Public Health/Medical Director, NHS North West

Ms Muriel James Secretary, Northampton Healthy Communities Collaborative and the King Edward Road Surgery Patient Participation Group

Professor David R Jones Professor of Medical Statistics, Department of Health Sciences, University of Leicester

Dr Matt Kearney General Practitioner, Castlefields, Runcorn. GP Public Health Practitioner, Knowsley

Ms Valerie King Designated Nurse for Looked After Children, Northampton PCT, Daventry and South Northants PCT and Northampton General Hospital. Public Health Skills Development Nurse, Northampton PCT

CHAIR Professor Catherine Law Professor of Public Health and Epidemiology, University College London Institute of Child Health

Ms Sharon McAteer Public Health Development Manager, Halton and St Helens PCT

Mr David McDaid Research Fellow, Department of Health and Social Care, London School of Economics and Political Science

Professor Klim McPherson Visiting Professor of Public Health
Epidemiology, Department of Obstetrics and Gynaecology, University of
Oxford

Professor Susan Michie Professor of Health Psychology, BPS Centre for
Outcomes Research & Effectiveness, University College London

Dr Mike Owen General Practitioner, William Budd Health Centre, Bristol

Ms Jane Putsey Lay Representative. Tutor and Registered Breastfeeding
Supporter, The Breastfeeding Network

Dr Mike Rayner Director, British Heart Foundation Health Promotion
Research Group, Department of Public Health, University of Oxford

Mr Dale Robinson Chief Environmental Health Officer, South
Cambridgeshire District Council

Ms Joyce Rothschild School Improvement Adviser, Solihull Local Authority

Dr Tracey Sach Senior Lecturer in Health Economics, University of East
Anglia

Professor Mark Sculpher Professor of Health Economics, Centre for
Economics (CHE), University of York

Dr David Sloan Retired Director of Public Health

Dr Dagmar Zeuner Joint Director of Public Health, Hammersmith and Fulham
PCT

Expert testimony to PHIAC:

Geoff de Burca Strategy Director, Naked Communications

Gino Perigo Programme Manager, D-MYST, Liverpool PCT

Anne Schulthess Youth Service Manager, QUIT

Emily Carr Young Person's Stop Smoking Adviser, Islington PCT

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Jane MacGregor Freelance Consultant, Trading Standards Institute,
LACORS and Department of Health

NICE Project Team

Mike Kelly

CPHE Director

Simon Ellis

Associate Director

Lesley Owen

Lead Analyst

Dylan Jones

Analyst

Patti White

Analyst

Alastair Fischer

Technical Adviser (Health Economics).

External contractors

External reviewers: review of effectiveness

'Interventions to prevent the uptake of smoking in children and young people' was carried out by the British Columbia Centre of Excellence for Women's Health. The principal authors were: Lindsay Richard, Patrice Allen, Lucy McCullough, Linda Bauld*, Sunaina Assanand, Lorraine Greaves, Amanda Amos*, Natalie Hemsing, Karin Humphries (*UK consultants).

External reviewers: focus group research

'The prevention of uptake of smoking by children and young people, with reference to the areas of mass media and the sale of tobacco products: findings from a multi-method primary research study' was carried out by Liverpool John Moore's University Centre for Public Health. The principal

authors were: Kerry Woolfall, Dr Lorna Porcellato, Katrina Stredder, Dr Michelle Wareing, Amanda Atkinson, Claire Lushey, Jim McVeigh, Dr Harry Sumnall.

External reviewers: economic analysis

'A review of the cost-effectiveness of interventions (specifically point-of-sales measures and mass media) to prevent the uptake of smoking in young people under 18 years old' was carried out by LSE Health, London School of Economics and Political Science. 'Cost-effectiveness of a mass media campaign and a point-of-sale intervention to prevent the uptake of smoking in children and young people: economic modelling report' was also carried out by LSE. The principal authors of both reports were: Maria Raiko and Alastair McGuire.

Appendix B: summary of the methods used to develop this guidance

Introduction

The reports of the review, qualitative research and economic analysis include full details of the methods used to select the evidence (including search strategies), assess its quality and summarise it.

The minutes of the PHIAC meetings provide further detail about the Committee's interpretation of the evidence and development of the recommendations.

All supporting documents are listed in appendix E and are available from the NICE website at: www.nice.org.uk/smokingandchildren

The guidance development process

The stages of the guidance development process are outlined in the box below.

1. Draft scope
2. Stakeholder meeting
3. Stakeholder comments
4. Final scope and responses published on website
5. Reviews and cost-effectiveness modelling
6. Synopsis report of the evidence (executive summaries and evidence tables) circulated to stakeholders for comment
7. Comments and additional material submitted by stakeholders
8. Review of additional material submitted by stakeholders (screened against inclusion criteria used in reviews)
9. Synopsis, full reviews, supplementary reviews and economic modelling submitted to PHIAC
10. PHIAC produces draft recommendations
11. Draft recommendations published on website for comment by stakeholders and for field testing
12. PHIAC amends recommendations
13. Responses to comments published on website
14. Final guidance published on website

Key questions

The key questions were established as part of the scope. They formed the starting point for the reviews of evidence and facilitated the development of recommendations by PHIAC. The five overarching questions were:

1. Which mass-media interventions are effective and cost effective in preventing children and young people from smoking?

2. Which interventions are effective and cost effective in reducing the illegal sale of tobacco to children and young people?
3. When appropriate interventions can be compared, which are most effective in preventing the uptake of smoking and the sale of tobacco to children and young people?
4. Are the interventions delaying rather than preventing the onset of smoking?
5. How would differences between the comparators used in published studies and the prevailing situation in England impact on the analysis of effectiveness and cost effectiveness?

Reviewing the evidence of effectiveness

A review of effectiveness was conducted.

Identifying the evidence

The following databases were searched for relevant systematic reviews, experimental studies and qualitative studies (from 1996–2006):

- ASSIA (Applied Social Science Index and Abstracts)
- British Nursing Index
- CDSR
- CENTRAL
- CINAHL
- Current Contents
- DARE
- EMBASE
- HMIC
- HSTAT
- MEDLINE
- National Research Register
- PAIS
- PsycINFO

- Social Policy & Practice
- Sociological Abstracts
- TRIP

The following websites were also searched for relevant reports:

- Action on Smoking and Health (www.ash.org.uk/)
- Centre for Tobacco Control Research (www.ctcr.stir.ac.uk/)
- Department of Health (www.dh.gov.uk/en/index.htm)
- Quit (www.quit.org.uk/)

Further details of the databases, search terms and strategies are included in the review 'Interventions to prevent the uptake of smoking in children and young people'.

Selection criteria

Studies were included in the effectiveness review if they:

- focused on children and young people aged under 18
- used mass-media communications, including new media (such as podcasting, text messaging or social networking websites) to prevent the uptake of smoking
- aimed to prevent sales of tobacco to children and young people
- were published in English from 1990 onwards.

Studies were excluded if they:

- focused on those aged 18 and over
- focused on family, education or social interventions
- were school-based
- included counselling or self-help and did not involve the use of mass media
- focused on price measures
- were conducted in a developing country or not published in English
- had been reviewed in a Cochrane Review as an individual study and included in the evidence review.

Quality appraisal

Included papers were assessed for methodological rigour and quality using the NICE methodology checklist, as set out in the NICE technical manual 'Methods for development of NICE public health guidance' (see appendix E). Each study was described by study type and graded (++, +, -) to reflect the risk of potential bias arising from its design and execution.

Study type

- Meta-analyses, systematic reviews of randomised controlled trials (RCTs) or RCTs (including cluster RCTs).
- Systematic reviews of, or individual, non-randomised controlled trials, case-control studies, cohort studies, controlled before-and-after (CBA) studies, interrupted time series (ITS) studies, correlation studies.
- Non-analytical studies (for example, case reports, case series).
- Expert opinion, formal consensus.

Study quality

- ++ All or most criteria fulfilled. Where they have not been fulfilled the conclusions are thought very unlikely to alter.
- + Some criteria fulfilled. Those criteria that have not been fulfilled or not adequately described are thought unlikely to alter the conclusions.
- Few or no criteria fulfilled. The conclusions of the study are thought likely or very likely to alter.

The interventions were also assessed for their applicability to the UK and a statement was included in the evidence statements.

Summarising the evidence and making evidence statements

The review data was summarised in evidence tables (see full review).

The findings from the review were synthesised and used as the basis for a number of evidence statements relating to each key question. The evidence statements reflect the strength (quantity, type and quality) of evidence and its applicability to the populations and settings in the scope.

Preventing the uptake of smoking by children and young people
consultation draft

Economic analysis

The economic analysis consisted of a review of economic evaluations and a cost-effectiveness analysis.

Review of economic evaluations

The following databases were systematically searched to identify studies published since 1990:

- CINAHL (1990–July 2007)
- EconLit (1990–June 2007)
- EMBASE (1990–July 2007)
- HEED (1990–July 2007)
- HMIC (1990–July 2007)
- MEDLINE (1990–July 2007)
- NHS EED (1990–June 2007)

Studies were eligible for inclusion if:

- they included children and young people aged up to 18
- the population covered did not smoke at the start of the study
- they reported on the cost and effectiveness of the prevention strategy.

The Drummond checklist (Drummond MF, Jefferson TO [1996] 'Guidelines for authors and peer reviewers of economic submissions to the BMJ'. British Medical Journal 313: 2075–283) was used for quality assurance.

Cost-effectiveness analysis

An economic model was constructed to incorporate data from the reviews of effectiveness and cost effectiveness. The results are reported in: 'Cost-effectiveness of a mass media campaign and a point of sale intervention to prevent the uptake of smoking in children and young people' by Dr Maria Raikou and Professor Alistair McGuire, LSE Health. It is available on the NICE website at: www.nice.org.uk/smokingandchildren

Qualitative research: focus groups

A range of both qualitative and quantitative research methods were used. The sample comprised: young people in school and sixth form colleges, two additional groups of young people who were at risk of, or who had been excluded from mainstream education and young people in contact with smoking cessation services. Full details of the methodology, data analysis and ethical approval for the project can be found in the report available at:

www.nice.org.uk/smokingandchildren

Fieldwork

This section will be completed in the final document.

How PHIAAC formulated the recommendations

At its meeting in January 2008 PHIAAC considered the evidence of effectiveness and cost effectiveness to determine:

- whether there was sufficient evidence (in terms of quantity, quality and applicability) to form a judgement
- whether, on balance, the evidence demonstrates that the intervention is effective or ineffective, or whether it is equivocal
- where there is an effect, the typical size of effect.

PHIAAC developed draft recommendations through informal consensus, based on the following criteria.

- Strength (quality and quantity) of evidence of effectiveness and its applicability to the populations/settings referred to in the scope.
- Effect size and potential impact on population health and/or reducing inequalities in health.
- Cost effectiveness (for the NHS and other public sector organisations).
- Balance of risks and benefits.

- Ease of implementation and the anticipated extent of change in practice that would be required.

Where possible, recommendations were linked to an evidence statement(s) (see appendix C for details). Where a recommendation was inferred from the evidence, this was indicated by the reference 'IDE' (inference derived from the evidence).

Appendix C: the evidence

This appendix lists evidence statements provided by one review, a focus group research report and expert advice and links them to the relevant recommendations (see appendix B for the key to study types and quality assessments). The evidence statements are presented here without references – these can be found in the full review (see appendix E for details). It also sets out a brief summary of findings from the economic appraisal.

Evidence statement number 1 indicates that the linked statement is numbered 1 in the review ‘Interventions to prevent the uptake of smoking in children and young people’. **Evidence statement FG1** indicates that the linked statement is numbered 1 in the focus group research report ‘The prevention of uptake of smoking by children and young people, with reference to the areas of mass media and the sale of tobacco products: findings from a multi-method primary research study’.

The review, focus group research report and economic appraisal are available on the NICE website (www.nice.org.uk/smokingandchildren). Where a recommendation is not directly taken from the evidence statements, but is inferred from the evidence, this is indicated by **IDE** (inference derived from the evidence) below.

Where PHIAC has considered other evidence, it is linked to the appropriate recommendation below. It is also listed in the additional evidence section of this appendix.

Recommendation 1: evidence statements 1, 1.1, 1.1.1, 1.3.1, 1.3.2, 1.3.3, 1.3.4, 1.3.5, 1.4, 1.4.1, 1.6, 1.6.1, 1.6.2, 1.7, 1.7.1, 1.7.2, 1.7.3, 1.7.4, 1.8, 1.8.1, FG1–8

Recommendation 2: evidence statements 2, 2.1, 2.1.1, 2.1.2, 2.3, 2.3.1, 2.3.2, 2.4, 2.4.1, 2.5, 2.5.1, 2.6, 2.6.1, 2.7, 2.7.1, 2.7.2, 2.7.3, 2.8, 2.8.1, FG–9

Recommendation 3: evidence statements 2, 2.1, 2.1.1, 2.3, 2.3.1, 2.3.2, 2.4, 2.4.1, 2.5, 2.5.1, 2.6, 2.6.1, 2.7, 2.7.1, 2.7.2, 2.7.3, FG 9

Evidence statements

Evidence statement 1

There is evidence that mass-media campaigns can prevent the uptake of smoking and also influence knowledge, attitudes and intentions of children and young people. Factors that have been shown to influence effectiveness in terms of attitudes, perceptions, beliefs and intentions include message source, message content, message format, message framing, duration, target audience, demographics of the audience, and the site/setting of the campaign. Factors that have been shown to influence effectiveness in terms of smoking behaviour (that is, smoking in the past 30 days, decreased initiation of smoking, quitting, number of cigarettes smoked) include message content, target audience, duration of the mass-media campaign, demographics of the audience, the number of anti-tobacco message sources and the Truth campaign. Overall, the factors outlined above work best when combined with broader tobacco control initiatives produced by tobacco control bodies. Furthermore, campaigns are most effective when they are long in duration and greater in intensity of exposure.

Evidence statement 1.1

Some mass-media interventions are more effective than others. Comparing interventions, prevention campaigns produced by the tobacco industry are less effective than anti-tobacco campaigns produced by tobacco control bodies. Young people perceive industry campaigns to be less effective, less interesting and less engaging. Industry campaigns also increase sympathy towards tobacco companies and interest in smoking.

Evidence statement 1.1.1

Evidence from one cluster RCT (++) suggests that adolescents perceive tobacco industry sponsored advertisements less favourably and as less effective (that is, participants rated these advertisements as less convincing

and less helpful in keeping friends from smoking and starting smoking) in reducing smoking (specifically, fewer people taking up smoking based on the following outcome measures: intention to smoke, curiosity of tobacco use, tobacco industry sympathy) than other smoking prevention advertisements, but also express greater sympathy with the tobacco companies after viewing their advertisements. Yet, neither the industry sponsored nor other prevention advertisements changed adolescent's intention to smoke.

One cross-sectional (+) study found that an American tobacco control campaign did increase anti-tobacco attitudes and beliefs, while an industry-sponsored campaign encouraged an interest in smoking. Similarly, one cross-sectional study (++) found that exposure to tobacco industry youth-targeted smoking prevention advertising generally had no beneficial outcomes (measured by young people's attitudes, beliefs and intentions regarding the tobacco industry, and tobacco use 10 months into the Truth campaign). Exposure to tobacco company parent-targeted advertising was associated with lower perceived harm of smoking, stronger approval of smoking, stronger intentions to smoke in the future and greater likelihood of having smoked in the past 30 days. Another (+) US-based cross-sectional study found that tobacco industry advertisements were less interesting, less cognitively engaging, and held less negative emotional appeal for teenagers than advertisements created by tobacco control programmes.

Evidence statement 1.3.1

How an intervention is delivered does influence the attitudes, perceptions and behaviours of young people. Evidence from two (+) reviews found that message content does influence the effectiveness of an intervention (see below), though the impact is not consistent, and also depends on the duration of delivery. One (++) RCT study found that message content could change perceptions of health risk severity and intentions not to smoke, though none of the message themes resulted in: increased self-efficacy for refusing cigarette offers or resisting tobacco marketing, or improved health risk vulnerability. Another (++) RCT study found that using tobacco-related disease messaging was more effective for increasing anti-tobacco attitudes and perceptions of

social disapproval risks associated with smoking, whereas anti-industry advertisements did not decrease young people's intention to smoke.

Evidence from a US cross-sectional (+) study found that 'truth' messages were effective in decreasing and preventing smoking in young people (Florida teens were less likely to smoke in the past 30 days, to have ever tried smoking, or to indicate that they could not rule out the possibility of smoking in the future).

A UK-based (++) qualitative study found that social norms messages were more effective than fear messages at encouraging more committed smokers to consider their smoking behaviours and reinforcing awareness of the dangers of smoking in less committed smokers. Industry manipulation advertisements were aesthetically appealing but ineffective for preventing the uptake of smoking. Similarly, one (+) review and one RCT (+) study concludes that anti-smoking advertisements can improve smoking prevention and cessation in the young (by making them less likely to smoke, have lower intentions to smoke, and have greater intentions to quit smoking), but the specific outcomes of any message type depends on the context and the values that the audience associates with smoking.

Applicability: most of the studies were conducted in the USA. It is not clear if these findings are directly applicable to the UK since the mass-media campaigns under investigation are specific to the USA. Furthermore, demographics of participants are different from those in the UK. International review data may be broadly applicable to the UK since the review is international in scope.

Evidence statement 1.3.2

Studies analysed the effectiveness of a variety of mass-media formats. One cross-sectional (-) study found that television advertisements were recalled more often than other formats and that viewing the advertisements increased intention to quit, though did not affect actual quit attempts. Evidence from one qualitative (+) study indicates that young people deemed websites as effective in obtaining information on smoking, if they incorporated: interactivity, expert-

trusted guidance, and appealing graphics. One (+) cross-sectional study reveals that youth-led tobacco prevention movements and intensive counter-marketing media campaigns can be effective in preventing the uptake of smoking and fostering anti-tobacco industry beliefs among young people.

Applicability: all three studies were conducted in the USA. Given that the findings are in response to specific USA interventions, it is not clear if findings are applicable to the UK.

Evidence statement 1.3.3

Evidence from one cross-sectional (+) study and one (+) review suggest that adult-focused or general population campaigns are successful in reducing smoking (cutting down the number of cigarettes smoked, increasing the numbers attempting to quit, making it easier to stay a non-smoker) in young people. Yet, one (+) review contends that both messages aimed at young people and general messages can be effective in developing awareness, and changing attitudes and behaviours associated with tobacco use, as long as messages are not deemed patronising by the young.

Applicability: no studies were conducted in the UK. It is not clear if the findings are directly relevant to the UK.

Evidence statement 1.3.4

One RCT (+) found that message framing impacts the effectiveness of an intervention by lowering intentions to smoke, lowering the perceived pharmacological benefits of smoking, and lowering the perceived psychological benefits of smoking. In particular, it is important that the message framing is consistent with the desired outcome.

Applicability: given the broad cultural differences between South Korea and the UK, the findings of this study are less relevant to the UK.

Evidence statement 1.3.5

One (+) review contends that effective messaging should attend to all elements (such as content, format and tone). Specifically, evidence from one

cross-sectional (+) study suggests that message processing in older teens improves when messages incorporate unrelated cuts and use suspenseful images. One cross-sectional study (+) found sources were evaluated more positively for implicit rather than explicit messages, and for anti-smoking rather than pro-smoking messages. Evidence from an RCT (++) study reveals that exposure to cigarette advertisements depicting young people can decrease negative stereotypic beliefs about smoking and increase an intention to smoke in the young.

Applicability: the demographics of study participants and the mass-media interventions under investigation are specific to the USA. It is not clear if findings are applicable to the UK.

Evidence statement 1.4

There was a lack of information regarding whether the effectiveness of a mass-media intervention depends on the status of the person delivering it. However, evidence indicates that young people who receive anti-smoking messages from a variety of sources (for example, family, friends, internet, sporting events), as opposed to only a few, are more likely to refuse tobacco.

Evidence statement 1.4.1

No studies specifically discussed how the status of a person delivering an intervention can have an impact on its effectiveness. Yet, one cross-sectional study (+) and one (+) review reveal that young people who are exposed to a large variety of anti-tobacco sources are more likely to refuse tobacco, and that social interactions can support anti-tobacco messaging. Evidence from two cross-sectional studies (+) indicates that the tobacco industry is not a trusted source of information among young people.

Applicability: it is not clear if the findings are directly applicable to the UK as they are USA-based. However, international review data may be broadly applicable, since multiple studies have produced similar results. Given the differences in demographics of study participants and the interventions under investigation it is not clear if findings are directly applicable to the UK.

Evidence statement 1.6

The duration of a mass-media intervention influences its effect. Increased exposure to anti-tobacco messages over time decreases intent to smoke and smoking initiation, meanwhile, increasing negative attitudes towards the tobacco industry.

Evidence statement 1.6.1

Evidence from one (++) Cochrane review suggests that the duration of an intervention will have the greatest bearing on health behaviours. In support of this, evidence from three cross-sectional studies (one++ and two +) identified by the literature search, reveals that increased exposure to anti-smoking advertisements over time results in a decrease in: young people smoking in the past 30 days (compared to those in markets with no exposure to state-sponsored anti-tobacco laws), intent to smoke, initiation of smoking, enhanced perception of risk, and negative attitudes about smoking.

Similarly, two cross-sectional (+)US studies demonstrate that young people living in states with aggressive counter-industry media campaigns are more likely to have negative beliefs about tobacco industry practices, are less likely to smoke, and are more informed about the dangers of second-hand smoke. As well, one (+) cohort study found that pro-tobacco media increased susceptibility to smoking, while anti-tobacco media decreased susceptibility. Conversely, one (++) US-based cross-sectional study did not find a relationship between exposure to anti-smoking campaigns and improved ideas about smoking or health behaviours. They argue that in order to be effective, exposure must be supported by other tobacco control initiatives. A cross-sectional (++) study found increased exposure to anti-tobacco mass-media messages in the absence of school-based tobacco prevention measures was not successful in reducing tobacco use among adolescents.

Applicability: none of the studies were conducted in the UK. However, given the nature of exposure to mass-media campaigns, findings may be applicable to the UK.

Evidence statement 1.6.2

Results from four cross-sectional studies (two ++ and two +) indicate that the Truth campaign was successful in improving the prevention of youth smoking over time. Studies show that the campaign resulted in: decreased prevalence rates of smoking in young people (through reduced uptake and/or increased quitting), greater agreement with anti-smoking statements by young people, and stronger anti-tobacco attitudes and beliefs.

Applicability: The Truth campaign is a USA anti-tobacco mass-media campaign. Due to the nature of the campaign and the demographics of US young people, results are not directly relevant to the UK.

Evidence statement 1.7

Effectiveness may vary according to a variety of demographic factors. Mass-media campaigns appear to benefit younger children more than their older counterparts. However, findings regarding the impact of sex and ethnicity are inconclusive. Mass-media messages and themes are received differently depending on age, sex, and ethnicity. There was a lack of information regarding the impact of socioeconomic status. A variety of other individual characteristics can also impact effectiveness.

Evidence statement 1.7.1

Several studies discuss sex and gender-based differences in the effectiveness of media interventions. One RCT (+) found that for girls, cosmetic advertisements had a greater impact on smoking behaviour (including how often they smoked, how long they have been smoking for and the number of cigarettes smoked) and intentions to quit; while health ads had a greater impact on the smoking behaviour of boys (including how often they smoked, how long they have been smoking for and the number of cigarettes smoked) and intentions to quit. Health advertisements were also most useful for reducing girls and boys intention to start smoking. Evidence from one (+) cohort study found that over time, boys were more susceptible (expressed greater interest in smoking uptake) to smoking than girls. One (3 +) cross-sectional study found no gender differences in the effectiveness of an anti-

smoking campaign. A cross-sectional (-) study found that while awareness was similar for girls and boys, girls had a greater recall of anti-tobacco messaging. In a (+) cross-sectional study based in Norway, girls demonstrated a stronger behavioural response (reporting that the campaign had affected their beliefs or decisions concerning smoking) to an anti-smoking media campaign that was targeted at girls.

Applicability: none of these studies were conducted in the UK. It is not clear if the findings are directly relevant, as gender is culturally defined and prescribed.

Evidence statement 1.7.2

Evidence from one review (+), one US-based cohort study (+), and four cross-sectional (two++, one +, and one-) studies reveals that for younger children, media campaigns are more likely to decrease intentions to smoke and improve smoking behaviour by decreasing initiation rates and continuation of current smoking. Similarly, one review (+) suggests that older youth are less affected by anti-tobacco industry campaigns since they have the least awareness of, and receptivity to, mass-media messages. In order to target this group, they suggest using campaigns that appeal to the general population, rather than just young people.

Conversely, one cross-sectional study (+) found that older youth demonstrated greater change in behavioural intentions after exposure to a media campaign. Also, one cross-sectional (+) study testing emotional reactions to smoking advertisements, found only a weak relationship between age and response.

Evidence from one RCT study (+) found that message content differentially impacts the outcomes of the campaign (how often young people smoke, number of cigarettes smoked, intentions to start smoking, and intentions to quit), depending on the age of the students. In general, health messages were more effective in changing smoking behaviour (how often young people smoke, how long they have been smoking, and the number of cigarettes smoked), intention to start smoking and intention to quit smoking for older

students. Cosmetic messages were more effective in changing smoking behaviour (how often young people smoke and the number of cigarettes smoked) for younger students. In another RCT (+) study, the investigators also concluded that age and message types have a statistically significant impact on the interpretation of tobacco-related messages. Older youth were less likely to positively accept explicit anti- or pro-tobacco messages that limited their internalised decision making, compared to younger children.

Applicability: none of these studies were conducted in the UK. It is not clear if findings are directly relevant.

Evidence statement 1.7.3

A variety of studies explored the impact of ethnicity on the effectiveness of youth interventions. One (++) cross-sectional study revealed that African Americans and Hispanics were more affected (defined as the level to which young people reported advertising had made them less likely to smoke cigarettes) by anti-smoking messaging than white young people. Evidence from one cross-sectional (+) study found no relationship between ethnicity and emotional reaction to anti-smoking messages. Finally, one (+) cross-sectional study found that a web-based tobacco prevention programme had a greater impact on intentions not to smoke among Hispanic and white students than black students.

Applicability: as these studies deal with specific populations in the USA, it is unclear how applicable these findings are to a UK setting.

Evidence statement 1.7.4

One cross-sectional (+) study found that a number of variables were associated with a greater intention to smoke, including: brand recognition, willingness to use or wear products with tobacco brands, stress and having friends who smoke. Having a live-in father who smoked, and agreeing with anti-tobacco ads were both associated with a lesser intention to smoke. Evidence from one cross-sectional (+) study found that young people who smoked demonstrated a greater awareness of the pervasiveness of anti-

smoking campaigns than among young people who had never smoked or who were susceptible to smoking.

Applicability: as neither of the studies were conducted in the UK it is not clear if findings are directly relevant.

Evidence statement 1.8

Lack of exposure and longevity are barriers to effective mass-media interventions.

Evidence statement 1.8.1

No studies specifically examined facilitators or barriers to the implementation of mass-media interventions. Yet, two (+) reviews suggest that mass-media interventions are most effective when they are longer in duration and greater in intensity of exposure. One review cites the guidelines developed by the Centre for Disease Control which recommend that advertisements should be aired for a minimum of 6 months to affect awareness and up to 24 months to have an impact on behaviours; advertisements should also be aired as frequently as possible, particularly within the first 6 months of a campaign. The other review contends that mass-media interventions should be large, intense and of 'sufficient duration' but the duration or intensity have not been explicitly defined.

Applicability: both studies were conducted in the USA. However, given the nature of exposure to mass-media campaigns findings may be applicable to the UK.

Evidence statement 2

There is evidence that access restriction interventions impact effectiveness in terms of the number of sales to young people, young people's ability to access cigarettes and store clerk compliance. There was a lack of information regarding whether interventions impact behaviours, attitudes, beliefs, intentions or perceptions. Only two studies addressed the impact of interventions on smoking behaviour. Factors that have been shown to influence number of sales, young people's ability to access cigarettes and

store clerk compliance include active enforcement, comprehensive interventions, interventions produced by tobacco control bodies, requesting age/proof of ID, demographics of the vendor/store clerk, site/setting of the access intervention, and the demographics of the target audience. Overall, the factors outlined above work best when combined with requesting proof of age/ID, active enforcement (in relation to both retailer-youth purchaser and trading standards-retailers) and other youth prevention strategies.

Evidence statement 2.1

Some access restrictions appear to be more effective than others. Compared to interventions created by tobacco control bodies, interventions produced by the tobacco industry do not decrease the sale of tobacco to young people. Store clerks participating in the tobacco industry intervention were still willing to illegally sell tobacco to children even after state mandated warnings were issued.

Evidence Statement 2.1.1

One cross-sectional (–) article found that a tobacco industry sponsored campaign in the US did not significantly reduce the sale of tobacco to minors, yet state mandated warnings were only slightly more successful in reducing young people’s ability to purchase tobacco. Tobacco industry interventions may not prevent the illegal sale of tobacco to children and young people; active enforcement of tobacco sales laws by health officials may be more effective.

Applicability: findings are not applicable to the UK since the findings are specific to a US-based tobacco industry campaign.

Evidence statement 2.3

The way in which an intervention is delivered does influence effectiveness. There is strong evidence that comprehensive interventions are more effective than individual restrictions alone. Furthermore, active enforcement and requesting age/ID can also decrease sales of tobacco. Similar findings were highlighted from English survey data.

Evidence statement 2.3.1

One (++) Cochrane review and one US-based cross-sectional study (+) found that multi-faceted interventions (active enforcement, multi-component educational strategies, and increased taxing and restrictions on smoking in public places respectively) are most effective for reducing youth's ability to access tobacco, particularly when combined with ongoing and active enforcement of minimum age restrictions. Similarly, English survey data indicates that a broad set of actions is the key to successfully increasing compliance with minimum age laws. Active law enforcement has been identified by one review (+) and two cross-sectional studies () as an important part of multi-component interventions. Evidence from one review (+) suggests that vending machine policies are most effective at reducing youth access to tobacco when combined with locking devices or complete vending machine bans.

Applicability: the majority of the studies took place outside of the UK in a wide range of countries, including Australia, the USA and New Zealand. However, it is likely that their findings are applicable to the UK, given the broad similarities in the impact of enforcement.

Evidence statement 2.3.2

Two cross-sectional (+) US-based studies found that when store clerks requested proof of age, illegal sales decreased. There is some evidence that asking for identification decreases illegal sales more than asking for age. Yet evidence from a non-RCT study (+) in the US suggests that minors who present ID are more successful when purchasing tobacco than those who do not. Therefore, while cashier compliance with enforcing age restrictions can decrease young people's ability to purchase tobacco, evidence suggests that this will be most effective when stringent verification of ID occurs.

Applicability: as none of these studies were conducted in the UK it is not clear if findings are directly applicable.

Evidence statement 2.4

The status of the person delivering an access restriction does impact on effectiveness. The age, gender and ethnicity of shop assistants selling tobacco appear to influence sales to young people.

Evidence statement 2.4.1

In one cross-sectional study (+), store clerks participating in a compliance programme were as likely to make illegal sales of tobacco to young people as store clerks who were not participating in the programme. However, US-based evidence from one (+) non-RCT and two cross-sectional (+) studies suggests that the age, gender and ethnicity of the person delivering an intervention influences the outcomes. Overall, younger store clerks are more likely to sell tobacco illegally to a minor, identification is less likely to be requested and an illegal sale is more likely to occur when the store clerk is a man. Some evidence also suggests that ethnicity may influence intervention outcomes; Asian clerks were found more likely to request age, with white store clerks most often requesting identification.

Applicability: all four studies were conducted in the USA. It is not clear if findings are applicable to the UK.

Evidence statement 2.5

Evidence shows that the site/setting does influence effectiveness. Based on English survey data, young people are successful at buying tobacco in a variety of locations including newsagents, tobacconists or sweet shops. Similar findings were highlighted by US studies which found that young people buy cigarettes from convenience stores, gas stations and food stores.

Evidence statement 2.5.1

Evidence shows that site/setting does influence the effectiveness of the intervention, and youth's ability to purchase tobacco. Evidence from one cross-sectional (+) study in Sweden indicates that younger looking adolescents were most successful when purchasing tobacco from newsstands, tobacconists and service stations (compared to department stores, grocery stores, cafes, restaurants, and video rental shops). Survey Preventing the uptake of smoking by children and young people consultation draft

data from England indicates that older young people are more successful at purchasing cigarettes than their younger counterparts. Another cross-sectional study (++) in the US found that minors were most successful at purchasing tobacco in convenience stores, followed by gas stations and food stores. Survey data from England similarly indicates that young people often buy cigarettes from newsagents, tobacconists or sweet shops. The availability of tobacco vending machines also influences access to tobacco. Two (+) cross-sectional studies based in the US, found that young people were more successful when purchasing tobacco from unlocked vending machines or self-service displays than from locked vending machines or over-the-counter outlets.

Applicability: all four studies took place outside of the UK. However, it is likely that their findings are applicable to the UK given the broad similarities in the locations where young people purchase cigarettes.

Evidence statement 2.6

The duration of access restrictions may impact effectiveness. There is some evidence that compliance with access restrictions increases over time. However, effectiveness may not be self-sustainable and may be impacted by social sources of tobacco.

Evidence statement 2.6.1

No studies in the review directly studied the intensity of interventions, although some did examine the impact of an intervention over time. Evidence from two (+) cross-sectional studies indicate that over time (between 2001 and 2003, and between 1996 and 2005 respectively) factors such as successive retail inspections, public prosecutions, awareness of campaigns and implementing a minimum-age law, result in decreased illegal sales of tobacco. Yet, evidence from one (+) review demonstrates that the effectiveness of access restrictions on purchasing tobacco may depend on the level of implementation (level of fines, rate of compliance, community involvement). Lastly, according to evidence from a (+) empirical review, interventions may not produce a sustained decrease in the illegal sale of tobacco. The authors do not specify

the impact of the interventions on duration of effect; they only state that interventions without compliance checks, significant penalties, and store clerk awareness have limited long-term effects.

Applicability: all four studies took place outside of the UK. As a result, it is not clear if findings are directly applicable.

Evidence statement 2.7

The effectiveness of access restrictions is affected by a variety of demographic variables. Older youth and more established smokers (who are also likely to be older) are more successful at purchasing tobacco. Although there were mixed findings regarding the impact of sex, findings from a strong piece of evidence indicate that boys are more successful than girls at purchasing tobacco. However, English survey data indicates that girls are more likely to try and buy cigarettes. However, refusal rates, and therefore purchasing success rates, are similar for boys and girls. The ethnicity of the young person influenced whether or not age/ID was requested. There was a lack of information regarding the impact of socioeconomic status.

Evidence statement 2.7.1

Access restrictions on the sale of tobacco have an impact on people who smoke in different ways, depending on their age and smoking status. Evidence from one (++)Cochrane review reveals that regular smokers encounter access restrictions on the sale of tobacco more frequently, but also employ more techniques to obtain cigarettes—such as presenting fake ID or lying about their age. One Australian-based cross-sectional (–) study found that retailer compliance resulted in the greatest decrease in smoking behaviour for younger and less experienced smokers. For example, the number of regular smokers decreased, the number of young people reporting at least monthly smoking decreased and the frequency of smoking decreased. Similarly, there is some US-based evidence from one (+) cross-sectional study, one (4 +) non-randomised controlled trial study, and one (++) cross-sectional study that older youth are more successful in purchasing tobacco. Some evidence also suggests that youth’s age or appearance affects their

ability to purchase tobacco. Two (+) cross-sectional studies and survey data from England found that young people who appear older are more successful in purchasing tobacco than those who look younger.

Applicability: although all of these studies took place outside of the UK, it is likely that their findings are applicable to the UK, given the outcomes being measured.

Evidence statement 2.7.2

Evidence from one US cross-sectional study (++) found that males had greater purchasing success rates. English survey data indicates that girls try to purchase cigarettes more than boys, however, refusal rates and therefore purchasing success rates, are similar. Evidence from two (+) Swedish cross-sectional studies indicate that boys were more successful in purchasing tobacco, both before and after minimum age restrictions were applied. Conversely, one US (+) cross-sectional study suggests girls are more successful in buying tobacco and one (+) cross-sectional study found that girls were more frequently asked to present ID when attempting to buy cigarettes. Some evidence also suggests that requesting ID results in the greatest reduction of girl's access to purchasing cigarettes.

Applicability: all five studies took place outside the UK. Furthermore, some evidence is not consistent with English survey data. Findings may not be directly relevant to the UK.

Evidence statement 2.7.3

Evidence indicates that ethnicity influences the ability to buy tobacco among young people. One US (+) cross-sectional study found that African American children, followed by Latino and white children respectively, were more likely to be asked for ID when attempting to purchase cigarettes. ID requests resulted in the greatest reduction of African American children's success in purchasing cigarettes. The authors do not indicate whether or not ID requests resulted in a reduction of purchasing success for Hispanic or white youths. One US-based (+) cross-sectional study found that tobacco policies impact young people differently. Evidence shows that smoking rates for white male
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young people are more responsive to anti-tobacco activities and clean indoor restrictions, while young black males are more influenced by smoking protection and youth access laws (that is, purchasing restrictions).

Applicability: as these studies deal with specific populations in the USA, it is unclear how applicable these findings are to a UK setting.

Evidence statement 2.8

Acquiring tobacco from social sources and lack of enforcement are barriers to the effective implementation of access restrictions.

Evidence statement 2.8.1

Two key barriers to the implementation of access restrictions on purchasing tobacco were identified. Evidence from three (+) reviews and one (++) review indicates that access restrictions are impeded by a young person's ability to access tobacco products from social sources including friends, family, and strangers. English survey data reveals similar findings. Furthermore, evidence from one (+) cross-sectional study based in the USA shows that weak enforcement of laws and policies creates a barrier to the effective reduction of the number of young people who smoke. In particular, minimum age restrictions are not well enforced.

Applicability: although the studies were conducted in the USA, their results are likely to be broadly applicable to the UK setting.

Evidence statement FG1

On the basis of young people's recognition of the format, television campaigns should be continued to be funded as part of comprehensive prevention and cessation campaigns.

Evidence statement FG2

There was evidence to suggest that national smoking prevention campaigns with both adult and young person-oriented messages would be successful approaches for reducing smoking.

Evidence statement FG3

Health promotion campaigns using the Internet will benefit from cutting-edge design and programming.

Evidence statement FG4

Social networking and communication sites may be useful hosts of electronic smoking prevention interventions. However, these should be well designed 'click-through adverts' with clear NHS branding, rather than dedicated pages within the sites.

Evidence statement FG5

Despite similar levels of smoking knowledge, current smokers had more positive smoking attitudes, and were less likely to believe that prevention campaigns could be effective. Smoking cessation and prevention campaigns are therefore likely to have differential effects, depending upon current smoking status. Content should be altered depending upon whether the aim of the intervention is to prevent uptake, delay uptake, or promote cessation.

Evidence statement FG6

From the results obtained in this sample, male smokers may be most resistant to attempts to persuade them to change their smoking behaviours.

Evidence statement FG7

If asked to express a preference, young people tend to value 'socially desirable' traditional intervention techniques (that is, fear arousal/'shock tactics') rather than evidence-based approaches. Some campaign elements should therefore proceed in opposition to young people's preferences.

Evidence statement FG8

Young people would prefer campaigns to be delivered by well known individuals with personal smoking stories.

Evidence statement FG9

Young people aged under 18 are able to obtain cigarettes from a wide variety of sources that circumvent legal controls. Proof of age schemes will not be

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effective for young people who obtain contraband or illegally imported cigarettes. Furthermore, young people are able to purchase cigarettes online with minimum information checking by retailers. Proof of age schemes need to be supported by test purchasing and enforcement.

Cost-effectiveness evidence

Overall, mass media campaigns and age restrictions on the purchase of tobacco were found to be cost effective.

The review of economic evaluations identified one study (raising the legal age of smoking) which was estimated to be cost saving. Another four studies were deemed to be cost effective (that is, they were estimated to be well below £20,000 to £30,000 per QALY). The latter four studies comprised: two mass-media campaigns, an age-enforcement programme and a multi-component tobacco control programme involving the school, media and community.

A cost-effective modelling analysis for both mass-media and point-of-sale interventions came to similar conclusions: both were estimated to be a cost effective or very cost effective use of NHS resources. (For further details, see 'Cost-effectiveness of a mass media campaign and a point-of-sale intervention to prevent the uptake of smoking in children and young people: economic modelling report'.)

The main limitations of the modelling analyses concerned uncertainty about how many children and young people were prevented from taking up smoking – and how long the effect of the interventions last.

Appendix D: gaps in the evidence

PHIAC identified a number of gaps in the evidence relating to the interventions under examination, based on an assessment of the evidence. These gaps are set out below.

1. There is a lack of evidence on whether or not mass-media interventions prevent – or simply delay – the uptake of smoking among children and young people.
2. There is a lack of UK-based studies on the influence of mass-media interventions on the uptake of smoking.
3. There is a lack of UK-based evidence on factors that influence the effectiveness of mass-media interventions such as the sociodemographic characteristics of the target audience.
4. There is a lack of evidence on the effectiveness and cost effectiveness of using new media to help prevent the uptake of smoking by children and young people.
5. There is a lack of UK-based evidence on facilitators and barriers to implementing mass-media interventions.
6. There is a lack of UK-based evidence on how a reduction in illegal tobacco sales affects children and young people's knowledge, attitudes and, most importantly, their behaviour in relation to smoking.
7. No studies were identified that compared the effectiveness of different approaches to reducing illegal tobacco sales.
8. There is limited evidence on the factors that influence the effectiveness of interventions to reduce illegal tobacco sales (for example, site, setting, intensity, provider and sociodemographic background of recipients).
9. There is a lack of evidence on whether access restrictions actually prevent the uptake of smoking or shift the way tobacco is purchased to other sources (including illicit activities).

10. There is a lack of evidence on the factors that support implementation of interventions to reduce illegal tobacco sales.
11. There is a lack of evidence on how the threat of penalties – or increased enforcement activities – affects under-age and illicit sales.
12. There is a lack of evidence on the volume of cigarettes that children and young people aged under 18 are getting from smuggled and other illegal sources.
13. There is very little evidence on how mass-media and point-of-sales interventions affect the prevalence of smoking among different socioeconomic groups and, hence, how they impact on health inequalities.

Appendix E: supporting documents

Supporting documents are available from the NICE website

(www.nice.org.uk/smokingandchildren). These include the following.

- Review of effectiveness: 'Interventions to prevent the uptake of smoking in children and young people'.
- Economic analysis:
 - 'A review of the cost-effectiveness of interventions (specifically point-of-sales measures and mass media) to prevent the uptake of smoking in young people under 18 years old'
 - 'Cost-effectiveness of a mass media campaign and a point-of-sale intervention to prevent the uptake of smoking in children and young people: economic modelling report'.
- Focus group research: 'The prevention of uptake of smoking by children and young people, with reference to the areas of mass media and the sale of tobacco products: findings from a multi-method primary research study'.

For information on how NICE public health guidance is developed, see:

- 'Methods for development of NICE public health guidance' available from: www.nice.org.uk/phmethods
- 'The public health guidance development process: an overview for stakeholders including public health practitioners, policy makers and the public' available from: www.nice.org.uk/phprocess