

# Smoking: preventing uptake in children and young people

Public health guideline

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## Your responsibility

The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or service users. The application of the recommendations in this guideline are not mandatory and the guideline does not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or their carer or guardian.

Local commissioners and/or providers have a responsibility to enable the guideline to be applied when individual health professionals and their patients or service users wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with compliance with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

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This guideline is the basis of QS82.

## 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 all those with a remit to improve the health and wellbeing of children and young people under 18. This includes those working in the NHS, local authorities, the criminal justice system and the wider public, voluntary and community sectors. It is also aimed at the private sector, in particular the retail industry and mass-media services. In addition, it may be of interest to children, young people and their carers, as well as other members of the public.

The guidance complements and supports a range of NICE publications on how to help people to stop smoking. Topics covered include: services in primary care, pharmacies, local authorities and workplaces, particularly for manual working groups, pregnant women and hard to reach communities; and the use of varenicline.

NICE is also working on guidance specifically for local authorities and NHS primary care services on school-based interventions to prevent the uptake of smoking among children (for further details, see [section 7](#)).

The Public Health Interventions Advisory Committee (PHIAC) has considered a review of the evidence, qualitative and quantitative research with children and young people, an economic appraisal, stakeholder comments and the results of fieldwork in developing these recommendations.

Details of PHIAC membership are given in [appendix A](#). The methods used to develop the guidance are summarised in [appendix B](#). Supporting documents used in the preparation of this document are listed in [appendix E](#). Full details of the evidence collated, including fieldwork data and activities and stakeholder comments, are available on the NICE [website](#), along with a list of the stakeholders involved and the Institute's supporting process and methods manuals.

## 1 Recommendations

This guidance was amended in November 2014 to reflect the ban on the sale of tobacco from vending machines, which came into effect in October 2011 in England.

The changes made were:

- Recommendation 4 and 5 were amended to remove mentions of vending machines.

This document constitutes the Institute's formal guidance on mass-media and point-of-sales measures to prevent the uptake of smoking by children and young people.

Mass-media and point-of-sales measures should be combined with other prevention activities as part of a comprehensive tobacco control strategy. Such a strategy is defined by the US Surgeon General, World Health Organization and others as encompassing price and regulation policies, education programmes, cessation support services and community programmes. It should be sufficiently extensive and sustained to have a reasonable chance of success.

The evidence statements that underpin the recommendations are listed in [appendix C](#). A brief description of the interventions is given below, immediately before the list of recommendations.

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

### *Interventions*

- Mass-media interventions use a range of methods to communicate a message. This can include local, regional or national television, radio and newspapers, and 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. (An example of real-time streaming of information is the 'breaking news' text that appears along the bottom of the screen during some TV news programmes.) 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. Primarily, they aim to deter shopkeepers from making illegal sales.

## *Recommendations*

### **Mass media**

#### ***Recommendation 1: campaign development***

##### **Who is the target population?**

Children and young people under 18.

##### **Who should take action?**

- Organisers and planners of national, regional and local mass-media campaigns.
- Local and regional commissioners and planners (including regional tobacco programme managers) with a remit to improve the health and wellbeing of children and young people under 18. This includes those working in the NHS, local authorities and tobacco control alliances.

##### **What action should they take?**

- Develop national, regional or local mass-media campaigns to prevent the uptake of smoking among young people under 18. The campaigns should:
  - be informed by research that identifies and understands the target audiences
  - consider groups which epidemiological data indicate have higher than average or rising rates of smoking
  - be developed in partnership with: national, regional and local government and non-governmental organisations, the NHS, children and young people, media professionals (using their best practice), healthcare professionals, public relations agencies and local anti-tobacco activists.
- The campaign(s) should not be developed in conjunction with the tobacco industry.

#### ***Recommendation 2: campaign messages***

##### **Who is the target population?**

Children and young people under 18.

### Who should take action?

- Organisers and planners of national, regional and local mass-media campaigns.
- Local and regional commissioners and planners (including regional tobacco programme managers) with a remit to improve the health and wellbeing of children and young people under 18. This includes those working in the NHS, local authorities and tobacco control alliances.

### What action should they take?

- Convey messages based on strategic research and qualitative pre- and post-testing with the target audiences. These could include messages that:
  - elicit a strong, negative emotional reaction (for example, loss, disgust, fear) while providing sources of further information and support
  - portray tobacco as a deadly product, not just as a drug that is inappropriate for children and young people to use
  - use personal testimonials that children and young people can relate to
  - are presented by celebrities to whom children and young people can relate (taking care to avoid credibility and other problems)
  - empower children and young people to refuse offers of cigarettes
  - include graphic images portraying smoking's detrimental effect on health as well as appearance (for example, its effect on the appearance of skin and teeth).
- Repeat the messages in a number of ways and regularly update them to keep the audience's attention.

### *Recommendation 3: campaign strategies*

#### Who is the target population?

Children and young people under 18.

#### Who should take action?

- Organisers and planners of national, regional and local mass-media campaigns.



- Local and regional commissioners and planners (including regional tobacco programme managers) with a remit to improve the health and wellbeing of children and young people under 18. This includes those working in the NHS, local authorities and tobacco control alliances.

### What action should they take?

- Use a range of strategies as part of any campaign to reduce the attractiveness of tobacco and contribute to changing society's attitude towards tobacco use, so that smoking is not considered the norm by any group. Strategies could include:
  - generating news by writing articles, commissioning newsworthy research and issuing press releases
  - using posters, brochures and other materials to promote the campaign
  - using opportunities arising from new media.
- The campaign(s) should not be delivered in conjunction with (or supported by) the tobacco industry.
- National campaigns should exploit the full range of media used by children and young people, including television advertising.
- Regional and local campaigns should build on, and be integrated with, a national communications strategy to tackle tobacco use. Regional campaigns should use regional press and radio (local campaigns should use local press and radio) to reach specific audiences and to get unpaid coverage in the press. They should also use regional and local networks (as appropriate) to generate as much publicity as possible.
- Effective practice, including effective local and regional media messages, should be shared locally, regionally and nationally.
- Campaigns should run for 3–5 years.
- Use process and outcome measures to ensure campaigns are being delivered correctly and effectively. For recommendations on the principles of evaluation, see [Behaviour change: the principles for effective interventions](#) (NICE public health guidance 6).

## Illegal sales

### *Recommendation 4*

#### Who is the target population?

Children and young people under 18.

#### Who should take action?

National government.

#### What action should they take?

- Support better enforcement of existing legislation by:
  - working with the Local Better Regulation Office to make illegal tobacco sales a higher priority for local authorities, thereby increasing inspection and enforcement activities
  - encouraging and providing all local authorities with support to:
    - ◊ enforce legislation to prevent under-age tobacco sales, in accordance with their statutory role and best practice
    - ◊ undertake regular audits of test purchasing to ensure consistent practice and enforcement
  - encouraging national organisations and local authorities to provide education and training programmes for trading standards officers
  - working with government agencies and national organisations to ensure retailers and others, such as publicans, are aware of legislation on under-age tobacco sales
  - ensuring magistrates are aware of the:
    - ◊ potential damage that smoking can do to children and young people and hence, the need to deter non-compliance among retailers
    - ◊ range of measures available to deter retailers from making under-age tobacco sales, including the use of fines up to level four on the standard scale and the granting of either a 'restricted premises' or 'restricted sales order' (Criminal Justice and Immigration Act, due to come into force March 2009).

- Ensure enforcement efforts are sustained over a number of years.

## ***Recommendation 5***

### **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 prohibiting under-age tobacco sales by:
  - providing training and guidance on how to avoid illegal sales
  - encouraging them to:
    - ◇ request proof of age from anyone who appears younger than 18 who attempts to buy cigarettes and get it verified. (Examples of proof-of-age include a passport or driving licence or cards bearing the nationally-accredited 'PASS' hologram)
    - ◇ complete the 'Age restricted products refusal register' for each tobacco sale refused on the grounds of age
  - running campaigns to publicise the legislation. These could include details of possible fines that retailers can face, where tobacco is being sold illegally and successful local prosecutions, as well as health information.
- Make it as difficult as possible for young people 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
  - undertaking test purchases each year, using local data to detect breaches in the law and auditing them regularly to ensure consistent practice across all local authorities.
- Work with other agencies to identify areas where under-age tobacco sales are a particular problem.

- Work with the Local Better Regulation Office to improve inspection and enforcement activities related to illegal tobacco sales.
- 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 use of enforcement and related campaigns developed by the tobacco industry.
- Ensure efforts to reduce illegal tobacco sales by retailers are sustained.

## 2 Public health need and practice

The cost of smoking is high. Between 1998 and 2002 it was responsible for an estimated 86,500 premature deaths in England each year, including 35,800 from cancer, 28,200 from circulatory disease and 20,700 from respiratory disease. It is also responsible for a range of other diseases and conditions, including impotence and infertility (Twigg, Moon and Walker 2004).

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 regularly<sup>[1]</sup> 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 16–19, 26% smoked regularly<sup>[2]</sup> – 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 from adults who sell them from home 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 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%).

## *Factors associated with smoking*

Environmental, sociodemographic, behavioural and individual factors are all associated with the uptake of smoking. Having a parent or sibling who smokes is particularly strongly associated with uptake (Goddard 1992; Stead et al. 1996).

Tobacco use in adolescence is associated with many behaviours that can adversely affect health, including the misuse of alcohol or other drugs (The Information Centre 2007). For example, young people aged 11–15 who have recently smoked tobacco, drunk alcohol or used cannabis, volatile substances or class A drugs are likely to have used one of the other substances as well; the strongest relationship is between recent cannabis use and cigarettes (The Information Centre 2006).

Regular smoking is also more prevalent among adolescents who have truanted or been excluded from school compared with those who have not (The Information Centre 2007).

## *Costs*

The treatment of smoking-related diseases costs the NHS an estimated £1.5 billion a 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).

It also costs families, especially the poorest, a great deal. In 1996, 55% of lone parents on income support (approximately 0.5 million) spent £357 million on cigarettes (smoking five packs of cigarettes a week on average at £2.50 per pack) (Dorset and Marsh 1998). In 2007, an estimated 858,000 lone parents were on income support. If the same percentage continued to smoke at the

same rate as in 1996 (with cigarettes now costing £6 per pack) it is estimated that they would have spent a total of £736 million on cigarettes in 2007.

## *Policy and legal background*

The following policies and legislation are relevant when attempting to prevent children and young people from taking up smoking.

- 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. 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). Apart from warnings about the legal age of purchase (required on premises where tobacco is sold), 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.
- The Criminal Justice and Immigration Bill became an act of parliament in May 2008 and will come into force in April 2009. It includes banning orders for retailers who persistently sell cigarettes to young people under the age of 18).

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 all agree that local authorities should assess the need for such a campaign. Where it is introduced, they recommend it should be run in accordance with best practice. In April 2006, LACORS published a practical guide, '[The LACORS practical guide to test purchasing](#)', for organisations undertaking test purchases with young people on all age-restricted products.

When the legal age for buying tobacco was changed in 2007, the DH issued a toolkit to help retailers fulfill their legal obligations.

In May 2008, the government initiated a [consultation in England](#) on its proposals for new tobacco controls, including measures to reduce children and young people's access to tobacco and to protect them from secondhand smoke. The proposals included: removing branding and logos from all tobacco packaging; restricting the display of tobacco products in shops; banning the advertising of smoking paraphernalia, such as cigarette papers; and banning cigarette vending machines. The document also proposes that cigarettes should be sold in packs of 20 as a minimum (because most children and young people can only afford packs of 10).

In October 2011, the sale of tobacco was banned in vending machines in England.

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<sup>[1]</sup> Regular smoking among young people aged 11–15 is defined as one or more cigarettes a week.

<sup>[2]</sup> Regular smoking among adults aged 16+ is defined as one or more cigarettes per day.



### 3 Considerations

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

- 3.1 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. 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 if mass-media campaigns or access restrictions delay (rather than prevent) someone from taking up smoking (that is, no studies were identified that addressed these issues).
- 3.2 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. In this context, some types of intervention will have a greater or more immediate effect than others (for example, price increases compared with education). PHIAC stresses that it is not a question of choosing one type of intervention over another but, rather, employing a range of interventions and ensuring they are carried out in the most effective way.
- 3.3 This guidance does not cover: policies on tobacco pricing and smuggled cigarettes; family-, community- and school-based interventions; measures to help children and young people quit smoking; and measures to discourage or reduce the uptake of tobacco chewing and smokeless tobacco.
- 3.4 Most of the effectiveness studies reviewed were conducted in the US. However, PHIAC judged that some of the evidence was sufficiently applicable to England to inform the recommendations.
- 3.5 There was a paucity of evidence on how socioeconomic status (and other measures of inequality) might affect children and young people's response to mass-media interventions discouraging tobacco use or the effectiveness of tobacco access restrictions.

- 3.6 There is clear evidence that advertisements which evoke strong negative emotions (such as fear) are effective. PHIAC believes such advertisements should include (or be linked to) messages reassuring participants that they can avert health problems and giving them clear advice on what to do.
- 3.7 The assumptions made in the economic modelling were conservative. Any reasonable change to the variables would probably mean both mass-media campaigns and point-of-sales measures would be even more cost effective.
- 3.8 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 tests. PHIAC would like tobacco test purchases to be given greater priority and more resources made available to achieve this.
- 3.9 Smuggled tobacco is cheap. As a result, it erodes efforts to discourage people from taking up smoking (or to encourage them to stop), particularly those from deprived communities. PHIAC is also concerned about the ease with which children and young people can purchase smuggled cigarettes and tobacco. In addition, there is evidence that a large number of smuggled cigarettes are counterfeit. PHIAC believes the sale of smuggled cigarettes could be tackled (in part) through collaborative working between HMRC and other local enforcement agencies, including trading standards officers and the police.
- 3.10 PHIAC recognises the need to enforce the law on under-age tobacco sales. However, 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. PHIAC would like DH, HMRC and the Home Office to consider measures to control their access to all sources. These control measures could include tobacco gained by proxy (a proxy purchase involves an adult buying a product for a young person) and from adults selling cigarettes from home. Other measures could include an increase in the penalty for selling cigarettes to young people under 18 and the introduction of hand-held devices to check the origin and license for sale of cigarettes.

- 3.11 PHIAC supports sanctions that can help to reduce or eliminate illegal tobacco sales, including the introduction of fixed-penalty, on-the-spot fines for under-age tobacco sales. (This is one of a number of administrative sanctions in the Regulatory Enforcement and Sanctions Bill [Royal Assent is expected in late 2008].)
- 3.12 Clause 143 of the Criminal Justice and Immigration Act 2008 deals with persistent offenders who sell tobacco to children. It allows local authorities to apply for premises to be closed down if there are three incidents of under-age sales. Offenders can be fined up to £20,000. This approach is commonly referred to as 'negative licensing'. PHIAC was advised that other approaches, such as 'positive licensing' or mandatory registration (with penalties for non-registration) could offer significantly more advantages. For example, they could be easier to enforce and, in the case of registration, require fewer resources. When the licensing scheme is reviewed, PHIAC would encourage DH to consider which scheme would most effectively tackle illegal sales.
- 3.13 PHIAC welcomes the inclusion of point-of-sale displays, as part of the DH consultation on the future of tobacco control (see ['Policy and legal background' in section 2](#)). During expert consultation, the committee was advised that tobacco products are, in effect, being promoted via point-of-sale displays. Options to overcome such promotions 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. In addition, plain packaging might be considered to reduce the attractiveness of cigarettes to young people.
- 3.14 Vending machines remain a popular source of cigarettes for young people under 18, despite legislation relating to under-age sales. (In 2004, one in five of those aged 11–15 who smoked said they bought cigarettes from a vending machine – see [section 2](#).) PHIAC is concerned that vending machines may become a more important source of cigarettes for children and young people, as other options become more restricted. Tobacco sales via vending machines are part of the DH consultation mentioned above. The committee welcomes consultation on the full range of options, which includes making them token- or electronic card-operated or prohibiting them altogether. [At the time of writing, vending machines were legal. Since October 2011 they have been banned in England.]

- 3.15 On the basis of the evidence and other considerations, PHIAC took the view that government should consider new legislation. This was communicated to the DH in the form of a letter from NICE's Chief Executive, Andrew Dillon.
- 3.16 PHIAC notes that only national organisations are likely to run mass-media campaigns involving TV advertising, because the cost for local or regional organisations is likely to be prohibitive.
- 3.17 PHIAC 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 options such as mobile phone texting and the use of social networking sites offer potential benefits as part of a mass-media campaign. PHIAC 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.

## 4 Implementation

NICE guidance can help:

- NHS organisations, social care and children's services meet the requirements of the DH's 'Operating framework for 2008/09' and 'Operational plans 2008/09–2010/11'.
- NHS organisations, social care and children's services meet the requirements of the Department of Communities and Local Government's 'The new performance framework for local authorities and local authority partnerships'.
- 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 has developed [tools](#) to help organisations implement this guidance.

## 5 Recommendations for research

PHIAC recommends that the following research questions should be addressed to improve the evidence relating to mass-media and point-of-sales measures to prevent smoking uptake by children and young people. It notes that 'effectiveness' in this context relates not only to the size of the effect, but also to cost effectiveness, duration of effect and harmful/negative effects.

1. Can interventions using new media help delay and/or prevent the uptake of smoking among children and young people in the UK?
2. What impact do socioeconomic factors (such as the social class of the target population) have on the effectiveness mass-media campaigns?
3. Would the US-based 'Truth' campaign be effective in the UK? (For details see [Interventions to prevent the uptake of smoking in children and young people](#))
4. What impact do socioeconomic factors (such as the social class of the target population) have on the effectiveness of measures to reduce illegal sales?
5. Do UK purchasing restrictions lead children and young people under 18 to buy cigarettes from unofficial sources? If so, how much tobacco are they buying from them and where are these sources?

More detail on the evidence gaps identified during the development of this guidance is provided in [appendix D](#).

## 6 Updating the recommendations

This guidance will be updated as needed and information on the progress of any update will be posted on the NICE [website](#).

## 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).
- [Behaviour change: the principles for effective interventions.](#) NICE public health guidance 6 (2007).
- [Varenicline for smoking cessation.](#) NICE technology appraisal 123 (2007).
- [Workplace health promotion: how to help employees to stop smoking.](#) NICE public health guidance 5 (2007).
- [Brief interventions and referral for smoking cessation in primary care and other settings.](#) NICE public health guidance 1 (2006).
- The clinical effectiveness and cost effectiveness of bupropion (Zyban) and nicotine replacement therapy for smoking cessation. NICE technology appraisal 39 (2002). [Replaced by [NICE public health guidance 10](#)]
- [School-based interventions to prevent smoking.](#) NICE public health guidance 23 (2010).



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## **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.

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## **Expert testimony to PHIAC:**

**Geoff de Burca**

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**Gino Perigo**

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**Anne Schulthess**

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## ***NICE project team***

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## *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.

## **Fieldwork**

The fieldwork report 'NICE CPHE public health intervention guidance recommendations on measures to prevent the uptake of smoking by children and young people' was carried out by Dr Foster Intelligence Limited. The authors were: Nigel Jackson and Elaine Johnson.

## 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](#).

### *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 PHIA. 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](#)
- [Centre for Tobacco Control Research](#)
- [Department of Health](#)
- [Quit](#)

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.

## 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.

## *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](#).

## *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](#).

## *Fieldwork*

Fieldwork was carried out to evaluate the relevance and usefulness of NICE guidance for practitioners and the feasibility of implementation. It was conducted in a variety of locations with practitioners and commissioners who are involved in tobacco control services. They included those working in the NHS, local authorities and the wider public sector, the criminal justice sector, marketing and retail.

The main issues arising from the fieldwork are set out in [appendix C](#) under fieldwork findings. The full fieldwork report 'NICE CPHE public health intervention guidance recommendations on measures to prevent the uptake of smoking by children and young people' is available on the NICE [website](#).

## *How PHIAC formulated the recommendations*

At its meeting in January 2008 PHIAC 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.

PHIAC 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).

The draft guidance, including the recommendations, was released for consultation in March/April 2008. At its meeting in May 2008, the PDG considered comments from stakeholders and the results from fieldwork and amended the guidance. The guidance was signed off by the NICE Guidance Executive in June 2008.

## Appendix C: The evidence

This appendix lists evidence statements from one review and a focus group research report provided by external contractors (see [appendix A](#)) 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 and the fieldwork.

**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](#). 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.

**Recommendation 1:** evidence statements 1, 1.1, 1.1.1, 1.3.1, 1.3.3, 1.3.4, 1.4.1, 1.7, 1.7.1, 1.7.2, 1.7.3, 1.7.4, FG 2

**Recommendation 2:** evidence statements 1, 1.3.1, 1.3.3, 1.3.4, 1.3.5, 1.6.1, 1.6.2, 1.7, 1.7.1, 1.7.2, 1.7.3, FG 2, FG 5–8

**Recommendation 3:** evidence statements 1, 1.3.2, 1.3.3, 1.4, 1.4.1, 1.6, 1.6.1, 1.6.2, 1.8, 1.8.1, FG1–4

**Recommendation 4:** evidence statements 2, 2.1, 2.1.1, 2.2.1, 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, 2.8, 2.8.1, FG 9

**Recommendation 5:** 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 'appeared to move youth attitudes in a pro-tobacco direction'.

### **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 'appeared to move youth attitudes in a pro-tobacco direction'. 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 'generating negative attitudes about the [tobacco] industry'.

**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 anti-tobacco 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 those close to the minimum

legal age (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 2.2.1**

No studies in the review examined whether interventions were delaying rather than preventing the onset of smoking. For the most part, studies examined the effect of access restrictions on illegal sales (for example number of sales to youth, merchant compliance) not the effect on behaviour or prevention of uptake. One US-based cross-sectional study (+) did find that interventions impacted youth's stage of smoking uptake. Stage of smoking uptake was rated on a continuum of 1 to 5, with stage 1 being someone who has never smoked and has no intention to smoke, and stage 5 being someone who currently smokes, has smoked at least 100 cigarettes and has no intention to quit. Evidence from this study suggests that compliance with youth access laws reduces the probability of being in higher stages of smoking. Youth who are in earlier stages of smoking depend more on social sources for acquiring tobacco. Interestingly, evidence from one American review (+) shows



no difference in youth smoking rates between communities with and without greater merchant compliance with sales restrictions.

**Applicability:** the findings are in relation to two US-specific interventions. It is not clear if findings are directly applicable to the UK.

## **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. One Tasmanian study also found that youth are successful in purchasing cigarettes from a variety of locations, including: service stations, supermarkets and corner 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 data from England indicates that young people close to

the legal purchase age (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.

One Tasmanian cross-sectional (+) study also found that youth are successful in purchasing cigarettes from a variety of locations, including: service stations, supermarkets and corner 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 five 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. Similarly, findings from one (+) cross-sectional study in Tasmania showed a decrease in non-compliance over time.

**Applicability:** all five 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. Those close to the legal minimum age (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 young people close to the legal minimum age (older youth) are more successful in purchasing tobacco. Some evidence also suggests that the 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 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 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 sale 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 quality-adjusted life year [QALY]). The latter four studies comprised: two mass-media campaigns, an age-enforcement programme and a multi-component tobacco control programme involving a school, the media and the 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 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.

## *Fieldwork findings*

Fieldwork aimed to test the relevance, usefulness and the feasibility of implementing the recommendations and the findings were considered by PHIAC in developing the final recommendations. For details, go to the fieldwork section in [appendix B](#) and [online](#).

Fieldwork participants were generally positive about the recommendations and their potential to help prevent the uptake of smoking among children and young people. Many stated that the recommendations would lead to a more concerted effort to prevent under-age smoking. This, they said, was not generally considered a high priority locally, regionally, or nationally (for example, compared to activity to combat under-age drinking). Some primary care trust (PCT) staff felt they needed the support of other local strategic partners, including local authority trading standards teams, the police and local magistrates; they welcomed their inclusion in the recommendations.

Several participants thought the recommendations should become part of PCT or local authority regulatory assessments, or should be enshrined in national standards and targets. This, they felt, would ensure statutory bodies take the action needed to prevent illegal sales and to discourage children and young people from smoking.

However, some participants believed adults who smoke should remain the top priority. They believed that a reduction in smoking prevalence among adults would lead to a similar reduction in smoking prevalence among children and young people.

Some retailers expressed concerns about some of the recommendations relating to them. They acknowledged that they should not sell tobacco products to young people under 18 and should ask for proof-of-age to prevent illegal sales. However, they also pointed out that staff may be reluctant to ask for proof-of-age due to the risk of abuse from customers. Trading standards officers said they could and do work with retailers to help them ask for proof-of-age in a way that reduces this risk.

Overall, participants thought the draft recommendations offered a useful checklist for preventing illegal sales and how to set up and run mass-media campaigns to discourage children and young people from smoking. Many thought they would help to prevent smoking among children and young people under 18 (albeit as part of a wider programme).



## 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 empirical 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 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 the volume of cigarettes that children and young people aged under 18 are getting from smuggled and other illegal sources.

12. There is a lack of 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.

The Committee made 5 recommendations for research. These are listed in [section 5](#).

## Appendix E: Supporting documents

Supporting documents are available from the NICE [website](#). 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'.
- Fieldwork report: 'Fieldwork on draft NICE CPHE public health intervention guidance recommendations on measures to prevent the uptake of smoking by children and young people'.
- A [quick reference guide](#) for professionals whose remit includes public health and for interested members of the public.

For information on [how NICE public health guidance is developed](#), see:

- Methods for development of NICE public health guidance (second edition, 2009)
- The NICE public health guidance development process: An overview for stakeholders including public health practitioners, policy makers and the public (second edition, 2009).

## Changes after publication

February 2012: minor maintenance.

February 2013: minor maintenance.

January 2014: Title of 'Behaviour change: the principles for effective interventions' updated. This guidance was previously entitled 'Behaviour change'.

November 2014: This guideline was amended to reflect the ban on the sale of tobacco from vending machines which came into effect in October 2011 in England.

## About this guideline

NICE public health guidelines make recommendations on the promotion of good health and the prevention of ill health.

This guideline was developed using the NICE [public health intervention](#) guidance process.

The recommendations from this guideline have been incorporated into a [NICE Pathway](#). Tools to help you put the guideline into practice and information about the evidence it is based on are also [available](#).

## Your responsibility

This guidance represents the views of the Institute and was arrived at after careful consideration of the evidence available. Those working in the NHS, local authorities, the wider public, voluntary and community sectors and the private sector should take it into account when carrying out their professional, managerial or voluntary duties.

Implementation of this guidance is the responsibility of local commissioners and/or providers. Commissioners and providers are reminded that it is their responsibility to implement the guidance, in their local context, in light of their duties to avoid unlawful discrimination and to have regard to promoting equality of opportunity. Nothing in this guidance should be interpreted in a way which would be inconsistent with compliance with those duties.

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