

Towards smoke-free public places

British Medical Association

Board of Science and Education & Tobacco Control Resource Centre

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Foreword

Second-hand tobacco smoke is the main source of indoor air pollution. For more than a decade, convincing scientific evidence has been available to demonstrate that exposure to second-hand smoke both harms health, and worsens existing health problems. At least one thousand people are estimated to die each year in the UK as the result of exposure to other people's tobacco smoke.

Successive expert panels and government committees have emphasised the need for protection of non-smokers from second-hand smoke, including the restriction of smoking in public places. The BMA has long supported legislation to ban smoking in public places as a necessary step in combating the dangers of second-hand smoke to non-smokers. Some progress has been made. Yet for the majority of the population, public places are the main source of exposure to second-hand smoke. Three million people are still exposed to tobacco smoke in the course of their work, and the UK is rapidly falling behind in its provisions to protect non-smokers.

At the same time, scientific knowledge on the nature and scale of the health effects of passive smoking has been accumulating. We know that second-hand smoke increases the risk of lung cancer by some 20–30 per cent and the risk of coronary heart disease by 25–35 per cent. In June 2002, the World Health Organisation International Agency for Research on Cancer classified second-hand smoke as a human carcinogen.

We also know that there is no safe level of exposure to tobacco smoke, and that adverse effects can be seen at low levels of exposure. Certain groups are particularly vulnerable: children, pregnant women, people with existing cardiovascular or cerebrovascular disease, and those with asthma and other respiratory disorders. Moreover, those in lower socioeconomic groups are more at risk than those in better-off groups.

Evidence on the benefits of smoke-free public places has also been accumulating. Smoke-free public places protect and improve the health of non-smokers. They also help smokers to stop. The potential public health benefit is substantial.

This report presents the case for measures to protect the public from smoking in public places, and makes evidence-based recommendations for effective measures to protect the public health. It summarises the scientific and medical evidence that passive smoking harms health and describes the nature, extent and impact of involuntary exposure to tobacco smoke in the United Kingdom today. Finally, it reviews the effectiveness of possible policy options and highlights the urgent need for decisive action to protect the public from the adverse health effects of passive smoking in public places.

Relevant evidence concerning exposure of infants, children and adults to second-hand smoke is presented. Evidence concerning the health effects of active smoking – in particular, evidence concerning the adverse health effects of smoking during pregnancy – is not covered here. This decision reflects the focus of the report on passive smoking in public places.

A handwritten signature in blue ink, appearing to read 'D. Carter', is positioned above a solid blue horizontal line.

Professor Sir David Carter
Chairman, BMA Board of Science and Education.

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Passive smoking – the facts

Actively smoked tobacco produces two main types of emission. The first, known as mainstream smoke, is drawn into the smoker's airways. The second, known as sidestream smoke, describes the smoke which is emitted from the burning tobacco, but not inhaled by the smoker.

Second-hand tobacco smoke – sometimes called 'environmental' tobacco smoke (ETS) – consists in the main of the non-inhaled sidestream smoke combined with a lesser proportion of mainstream smoke which has been exhaled by smokers. Passive smoking, or involuntary smoking, is the term used to describe the exposure of non-smokers to second-hand smoke.

Tobacco smoke is a potent cocktail of over 4,000 chemicals, including more than 50 substances known to cause cancer¹. Involuntary smoking involves exposure to the same substances. Second-hand smoke contains several major classes of known carcinogens, including benzo[a]pyrenes, aromatic amines and tobacco-specific nitrosamines. In addition, it contains nicotine, toxins such as carbon monoxide and hydrogen cyanide, and irritants such as acrolein.

Table 1: Some constituents of second-hand smoke

Toxins and irritants	Carcinogens
Ammonia	Benzo[a]pyrene
Formaldehyde	2-Naphthylamine
Carbon monoxide	4-Aminobiphenyl
Nicotine	Benzene
Toluene	Arsenic
Nitrogen dioxide	Chromium
Hydrogen cyanide	Vinyl chloride
Acrolein	Dimethylnitrosamine

Second-hand tobacco smoke consists of a gas phase and a particulate phase. Almost 85 per cent of second-hand smoke is in the form of invisible, odourless gases². The particulate phase includes tar, nicotine, benzene and benzo[a]pyrene. The gas phase includes carbon monoxide, ammonia, dimethylnitrosamine, formaldehyde, hydrogen cyanide and acrolein.

Exposure to second-hand smoke can be measured in a number of ways:

- The air concentration of constituents of second-hand smoke can be measured directly.
- Surveys and questionnaires can be used to gather data on time and frequency of exposure and, for example, the number of cigarettes smoked in a household.
- Personal monitors can assess exposure to nicotine or smoke particles.
- Constituents or metabolites of tobacco smoke can be detected in hair, blood, saliva or urine samples. Biomarkers such as nicotine and its breakdown product cotinine, as well as markers of DNA and protein damage, can be used as indicators of the amount of second-hand smoke absorbed by a person.

Passive smoking harms health

The scientific and medical consensus is clear. The evidence demonstrates that exposure to second-hand tobacco smoke both causes illnesses – including fatal illnesses – and worsens existing health problems. A series of expert scientific reports has assessed and evaluated the studies available, and concluded that passive smoking harms health, notably:

1983 — The *UK Independent Committee on Smoking and Health* notes the link between passive smoking and illness in adults and children³.

1986 — The *US Surgeon General* concludes that exposure to second-hand tobacco smoke is a major health risk⁴.

1988 — The *UK Independent Committee on Smoking and Health* concludes that passive smoking could cause several hundred cases of lung cancer among non-smokers each year⁵.

1992 — The *US Environmental Protection Agency* classifies second-hand smoke as a known human carcinogen and concludes that passive smoking causes cancer⁶.

1998 — The report of the *UK Scientific Committee on Tobacco and Health* concludes that passive smoking causes lung cancer and childhood respiratory disease⁷.

1999 — The World Health Organisation expert consultation: *Environmental Tobacco and Child Health* concludes that passive smoking causes respiratory disease and middle-ear infection, and reduces lung growth and function⁸.

2000 — The *UK Confidential Enquiry into Stillbirths and Deaths in Infancy* identifies exposure to tobacco smoke during infancy as a cause of cot death⁹.

2002 — The World Health Organisation *International Agency for Research on Cancer* identifies passive smoking as a cause of lung cancer, and classifies second-hand smoke as a human carcinogen¹⁰.

The health effects of passive smoking

Second-hand smoke is a health hazard. The major and other health effects of passive smoking in adults and children are summarised below (table 2).

Table 2: Known health effects of passive smoking

There is conclusive evidence that passive smoking causes:	There is substantial evidence that passive smoking causes:
<p>Adults</p> <ul style="list-style-type: none"> Lung cancer Coronary heart disease Asthma attacks in those already affected Onset of symptoms of heart disease Worsening of symptoms of bronchitis 	<ul style="list-style-type: none"> Stroke Reduced foetal growth (low birth-weight baby) Premature birth
<p>Children</p> <ul style="list-style-type: none"> Cot death Middle-ear disease (ear infections) Respiratory infections Development of asthma in those previously unaffected Asthma attacks in those already affected 	
<p>Other proven health effects of passive smoking</p>	
Shortness of breath	Nausea
Airway irritation	Headache
Coughing	Eye irritation

Adults

Passive smoking is proven to cause lung cancer in adults¹¹. The International Agency for Research on Cancer¹⁰ recently reviewed more than 50 epidemiological studies and concluded that there is a statistically significant and consistent association between lung cancer risk and exposure to second-hand tobacco smoke. Non-smokers living with a smoker run a 20–30 per cent greater risk of lung cancer than those who live in non-smoking households. For non-smokers exposed in the workplace, the risk of lung cancer is increased by 16–19 per cent.

Passive smoking is proven to cause heart disease¹². Involuntary smoking increases the risk of an acute coronary event by 25–35 per cent.

Passive smoking increases the risk of stroke¹³. One study found that among non-smokers married to a smoker, the risk of stroke was doubled¹⁴.

For people with asthma, exposure to second-hand smoke is not only associated with more severe symptoms, but also with lower quality of life, reduced lung function, and increased use of health services for asthma, including hospital admissions¹⁵. In addition, it is cited by up to 80 per cent of asthmatics as a trigger for further attacks¹⁶.

Passive smoking is associated with the onset of certain symptoms of coronary disease¹⁷ and exacerbates respiratory conditions such as bronchitis.

Exposure to second-hand smoke during pregnancy is linked to low birth-weight¹⁸. The greater the exposure, the greater the risk of having a low birth-weight baby¹⁹. Passive smoking has also been found to increase the risk of giving birth prematurely²⁰. Newborn babies whose mothers have been exposed to tobacco smoke produce metabolic breakdown products of nicotine, demonstrating their exposure to second-hand smoke *in utero*²¹.

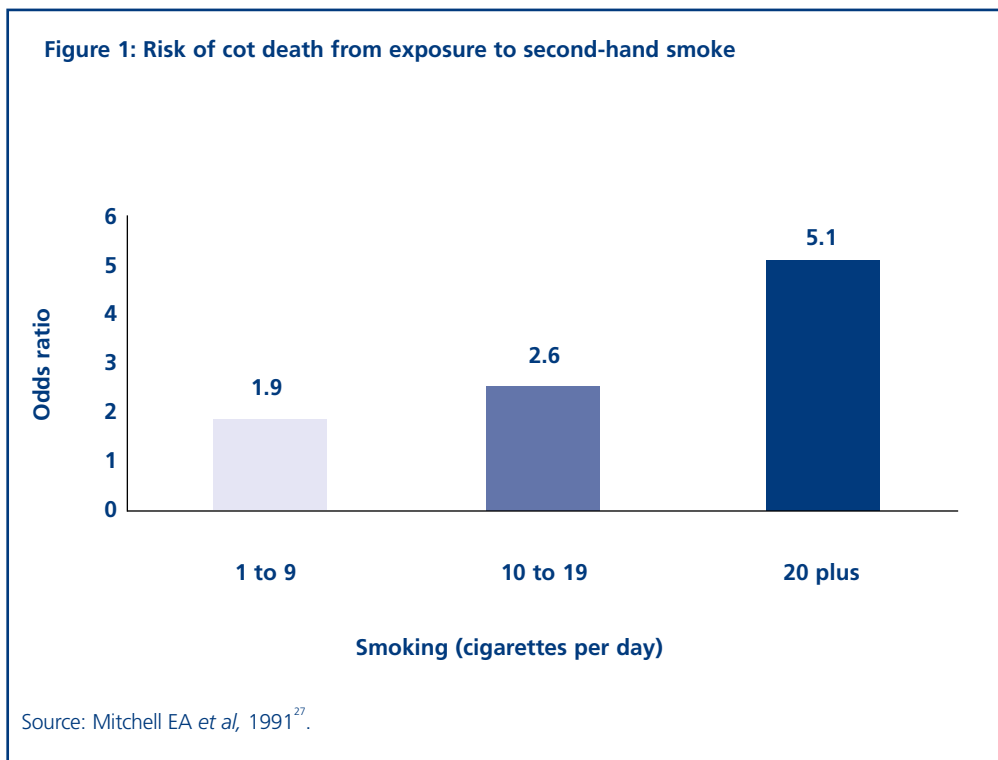
Children

In children, passive smoking increases the risk of lower respiratory tract illnesses such as pneumonia, bronchitis, coughing and wheezing⁸. It is also a cause of reduced lung growth and middle-ear disease, including recurrent ear infections²².

Second-hand smoke can cause asthma in children, and increases the severity of the condition in children who are already affected²³.

Increasing levels of exposure to second-hand smoke in childhood are associated with increased hospitalisation for respiratory illnesses²⁴. It is estimated that each year, more than 17,000 children under five years are admitted to UK hospitals because of respiratory illness caused by exposure to other people's cigarette smoke²⁵.

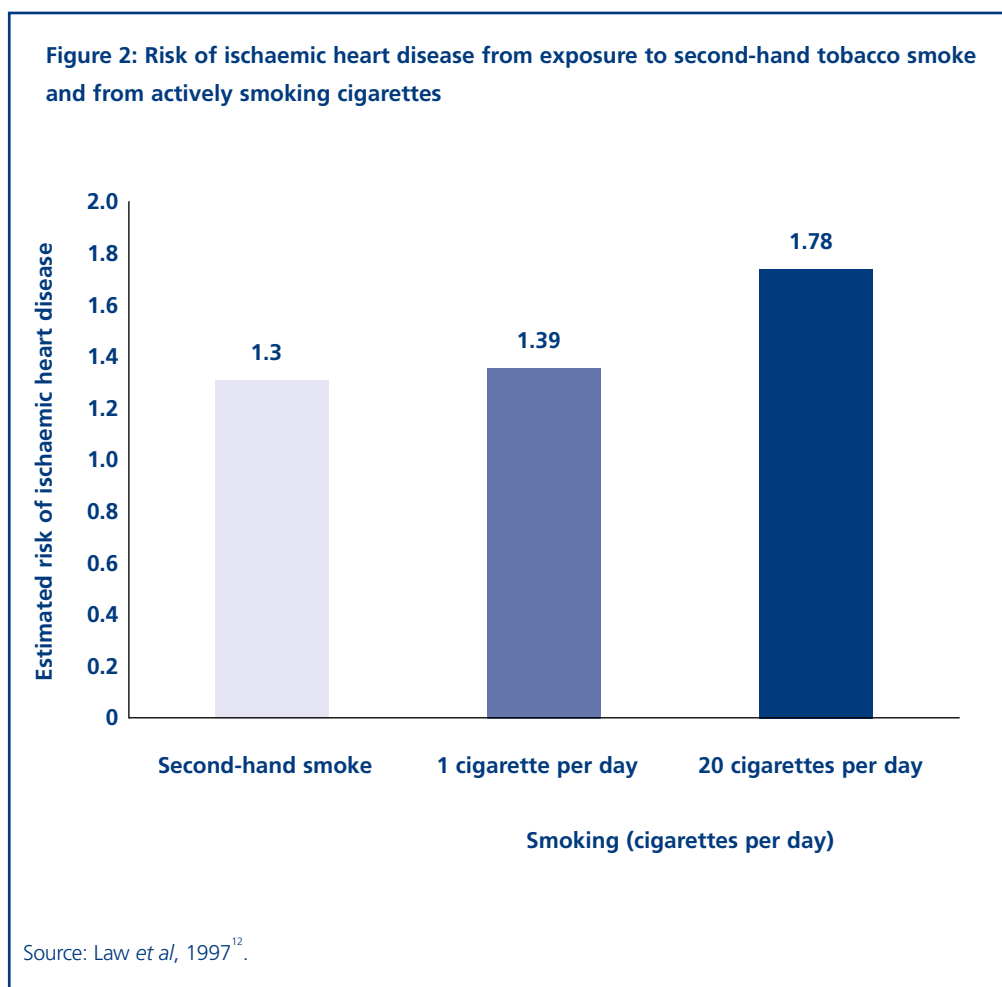
Passive smoking is also a cause of cot death²⁶ (sudden infant death syndrome (SIDS)) – see figure 1²⁷.



Dose-response relationship

Many of the adverse health outcomes induced by second-hand smoke show a linear dose response – the risk of the illnesses increases steadily with increasing exposure. These include lung cancer, induction of asthma, cot death and low birth-weight. Moreover, the magnitude of the risks is broadly in line with that which might be predicted from studies of active smoking on the basis of the dose of tobacco smoke absorbed during passive smoking.

The dose-response relationship for coronary heart disease is non-linear, and significant effects are seen at low levels of exposure. Passive smoking equivalent to exposures just 1 per cent of those of active smoking carries a risk of ischaemic heart disease almost half that of smoking 20 cigarettes a day¹² – see figure 2.



The unexpectedly high risk of heart disease from exposure to second-hand smoke may be explained by its effects on the blood and blood vessels²⁸. In non-smokers, relatively low levels of tobacco smoke cause thickening of the blood through aggregation of platelets. Modest exposures to tobacco smoke have been found to induce changes in the walls of blood vessels, contributing to a narrowing of the arteries and a reduction in the supply of blood and oxygen.

There is no evidence that there is a safe level of exposure to second-hand smoke, below which no adverse effects are seen. Moreover, exposure to levels of tobacco smoke that may result in minor health effects in one individual may precipitate more severe effects in another person.

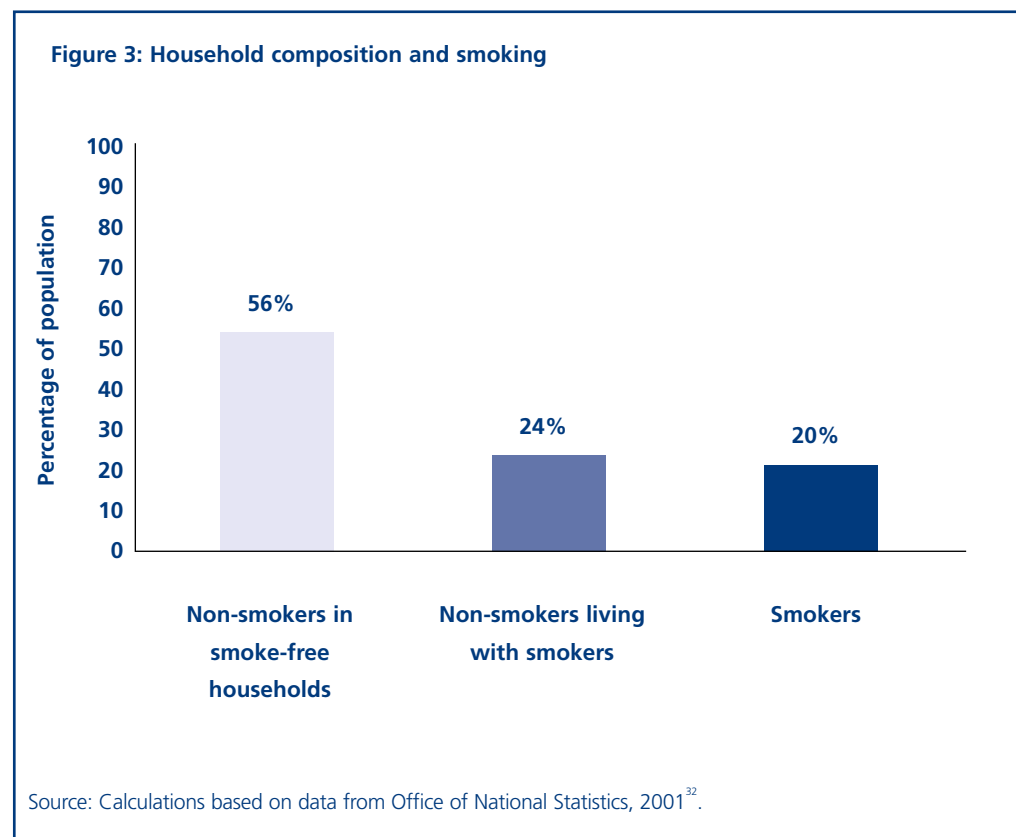
Certain people are known to be especially vulnerable to adverse effects. These groups represent a substantial proportion of the population. For example, it is estimated that in the UK there are 8 million people with lung disease²⁹, 2.1 million people with angina, 1.3 million people who have had a heart attack³⁰, and 300,000 people who have had a stroke³¹. There are an estimated 10.8 million women of childbearing age, and some 750,000 pregnant women. Children represent 20 per cent of the population, of whom 6 per cent are under five³². 1.5 million children, one in seven, have asthma¹⁶.

Passive smoking in public places

Involuntary exposure to second-hand smoke can occur anywhere where a non-smoker comes into contact with smoking. Non-smokers are in the majority in the UK, accounting for more than 80 per cent of the entire population. Second-hand tobacco smoke is the main source of indoor air pollution³³.

For non-smokers – children and adults alike – who share their household with a smoker, the most significant exposure to second-hand smoke is likely to occur in the home³⁴. It is estimated that in the UK today, 42 per cent of children and 21 per cent of non-smoking adults live in a household where at least one person smokes. Non-smokers who live with a smoker account for almost 24 per cent of the UK population – a total of 14 million people.

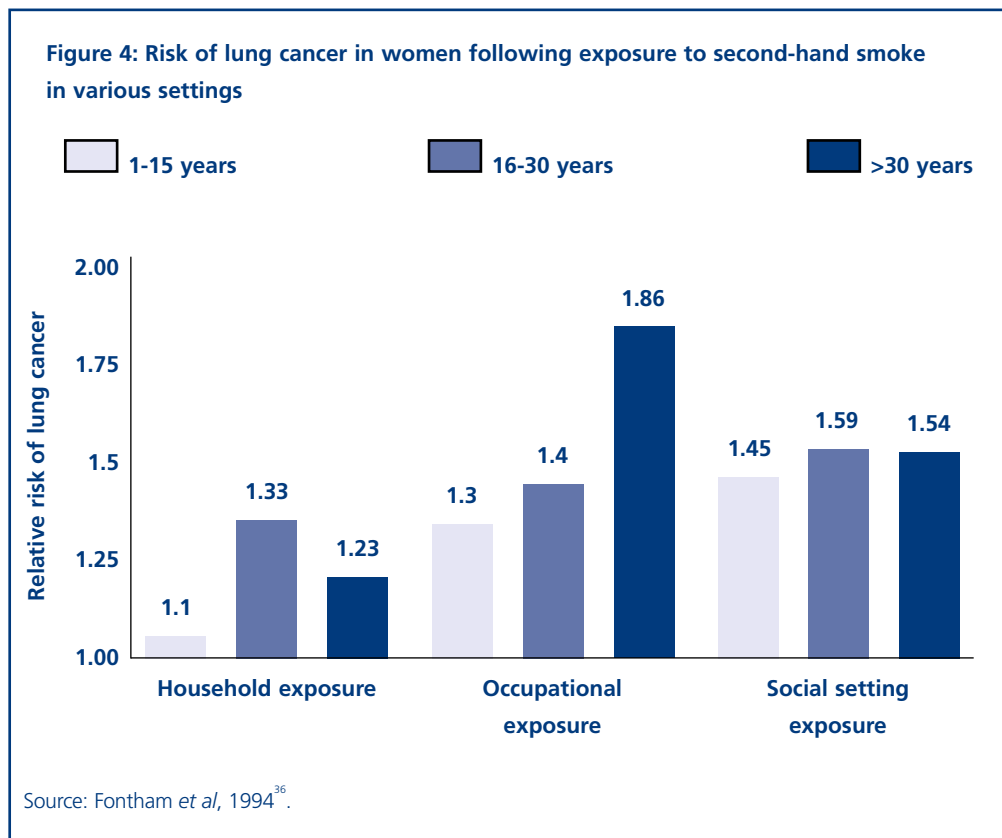
The majority of non-smokers live in non-smoking households. Non-smokers living in non-smoking households number some 34 million people, and represent 56 per cent of the UK population. Figure 3 shows household composition with regards to smoking in the UK today (children and adults).



For both adults and children living in non-smoking households, exposure to second-hand smoke occurs primarily in public places. The term ‘public place’ encompasses a wide variety of facilities. The British Medical Association (BMA) considers as a public place any enclosed space to which the public has access. This definition covers business premises used for any trade, business or profession, and open to members of the public. It also includes public conveyances, including taxicabs and any other vehicle used for the transportation of the public.

In the UK, smoking restrictions in public places enjoy strong public support. A recent survey showed that 86 per cent of the public is in favour of smoking restrictions in the workplace, in banks and in other public places. Public awareness of certain ill-effects of passive smoking is high: eight out of ten know it increases the risk of asthma in children and the risk of lung cancer in adults³⁵ (see box 1: *Passive smoking: public awareness, attitudes and behaviour*).

The health risks of passive smoking in the workplace and in social settings can be comparable to those in the home³⁶ (see figure 4).



Box 1: Passive smoking: public awareness, attitudes and behaviour

There is broad public acceptance that passive smoking is harmful to health. But while public awareness of certain ill effects is good, others are less well known.

Table 3: Knowledge of health risks to children from passive smoking

	Smokers	Non-smokers
Chest infection	81%	93%
Asthma	71%	88%
Other infections	49%	68%
Cot death	46%	62%
Ear infections	21%	33%

Table 4: Knowledge of health risks to adults from passive smoking

	Smokers	Non-smokers
Lung cancer	75%	92%
Bronchitis	76%	89%
Asthma	67%	85%
Heart disease	61%	71%
Coughs and colds	56%	72%

Source: Meltzer H & Lader D, 2001³⁷.

Restrictions on smoking in public places enjoy widespread support. Some 86 per cent of the UK public is in favour of smoking restrictions in the workplace, in banks and in other public places, 88 per cent in restaurants and 53 per cent in bars³⁵. Support for smoke-free public places is somewhat lower.

Surveys suggest that smokers are willing to modify their behaviour to protect non-smokers from passive smoking – two-thirds say that they never smoke around children, while half do not smoke in the presence of adult non-smokers³⁵.

Passive smoking in the workplace remains a significant problem. In the UK, three million workers are regularly exposed to second-hand smoke³⁸, and around 1.3 million workers are exposed to second-hand smoke at least 75 per cent of the time³⁹. Workers in lower socioeconomic groups run the greatest risk of exposure (see box 2: *Inequalities and passive smoking*).

Passive smoking is also a concern across Europe. It is estimated that within the European Union alone, exposure to second-hand smoke accounts for 22,000 deaths per year⁴⁰. More than seven million workers in the European Union are regularly exposed to second-hand smoke in the workplace³⁹.

Box 2: Inequalities and passive smoking

Workers in lower socioeconomic groups – in particular blue-collar workers, service sector staff, and employees with lower levels of education – are more likely to be exposed to second-hand smoke. A Finnish study⁴¹ showed that service sector employees had the highest levels of exposure, while office workers had the lowest. A review of involuntary smoking at work⁴² concluded that both bar and restaurant workers are exposed to levels of second-hand smoke that are higher than those seen in non-smokers who are exposed in the home. Moreover, workers in restaurants have exposure levels almost twice those of office workers, while exposure of bar workers is up to six times higher. A study of more than 40 different occupations in USA found that blue-collar or service workers are at greater risk of passive smoking than their white-collar peers. Waiting staff and non-construction manual workers had the highest levels of exposure, while teachers, farm workers and nursery workers had the lowest⁴³.

Table 5: Exposure to second-hand smoke among different occupational groups

	Mean blood levels of cotinine (mg/ml)
Waiting staff	0.47
Textile, apparel, furnishings machine operators	0.29
Cleaning and building services	0.22
Mechanics and repairers	0.21
Management related occupations	0.13
Health diagnosing, assessing, treating	0.11
Teachers	0.09
Farm and nursery (plant) workers	0.06

A review of the provision of smoke-free workplaces in the USA found that the higher an employee's educational level, the more likely they were to have a smoke-free workplace⁴⁴. A recent survey of Londoners showed that those in lower social groups are more likely to work in places where smoking is permitted⁴⁵.

Smoking in the workplace is of particular concern. Workers are under a contractual obligation to carry out their job. Those who are particularly vulnerable to the health effects of second-hand smoke may be unable to work in smoky conditions. Moreover, workers can be at particular risk of prolonged and high-level exposure to second-hand smoke, with all the additional health risks this entails. For certain workers, levels of exposure to tobacco smoke may be particularly high, exceeding those seen among non-smokers who live with smokers⁴⁶. Employees spend a substantial proportion of their time at work, over many decades. Certain workers who are exposed to occupational carcinogens such as asbestos and solvents in addition to second-hand smoke run even greater risks, as these substances act synergistically to increase the risk of cancer.

The economic and health costs of passive smoking in the workplace are considerable. They include increased levels of absenteeism through illness⁴⁷ and reduced productivity^{48,49}. Exposure to second-hand smoke in the workplace is linked to work disability caused by respiratory conditions, especially adult asthma⁵⁰. Employers also bear indirect costs of workers' smoking, including higher maintenance and cleaning costs, higher risks of fire damage, explosion and accidents, and higher fire insurance premiums⁵¹.

Fewer than half (44 per cent) of workers in Great Britain are employed in workplaces that are smoke-free³⁷. Some two-fifths (40 per cent) work in places that have designated smoking areas, while 11 per cent work in places with no smoking restrictions.

Moreover, two of every five non-smokers are exposed to tobacco smoke at work: one in five (21 per cent) either frequently or continuously. Almost three in ten (29 per cent) of all pregnant workers are exposed to tobacco smoke at work⁵².

The Scotland's Health at Work (SHAW) study⁵³ looked at 1,500 Scottish workplaces and found that more than one in five (21 per cent) had no restrictions on smoking. Just one-third (34 per cent) of workplaces are smoke-free, while in more than half (53 per cent), smoking is allowed in designated areas⁴⁸.

Healthcare facilities are above average in their provision of smoke-free environments; however, there remains room for improvement. Certain long-stay and psychiatric facilities give particular cause for concern (see box 3: *Healthcare facilities – an example of good practice?*).

Box 3: Healthcare facilities – an example of good practice?

Healthcare facilities have a special status. Many people using them are sick or otherwise especially vulnerable to the harmful effects of tobacco smoke. Staff have a duty to protect the health of patients. The NHS is charged with providing an exemplar of good practice where health is concerned. As an expert working group convened by the Scottish Executive has stated: *'The health service has an important exemplar role as an employer. Because of its unique position ... the NHS should exemplify best practice to other employers ...'*⁵⁴. With over one million staff, the NHS is Europe's biggest employer.

A 1996 survey of UK health facilities found that just seven out of ten (71 per cent) had clearly indicated restrictions on smoking in areas used by the public⁵⁵. More than a quarter (28 per cent) reported substantial problems with members of the public ignoring restrictions on smoking.

The situation in hospitals is somewhat better. Nine out of ten hospitals are either smoke-free or have designated smoking areas⁵⁶. A 1997 survey of community and healthcare trusts⁵⁷ showed that 85 per cent had smoke-free workplaces for staff at all sites, with a further 7 per cent being smoke-free at some sites. Among ambulance trusts, 65 per cent were smoke-free at all sites, and a further 12 per cent at some sites.

More than nine out of ten GP practices (93 per cent) were smoke-free, with the remainder allowing smoking in a restricted area⁵⁸. In 95 per cent of practices, the policy was regarded as successful.

In 1995, a survey found that around half of all Scottish healthcare facilities allowed staff to smoke in designated smoking areas⁵⁹. Psychiatric hospitals were of particular concern: none of those visited provided smoke-free space for either staff or patients.

Support for smoke-free healthcare facilities is strong. A recent survey carried out in London found almost unanimous public support for restrictions on smoking in hospitals, clinics and health centres (99 per cent of smokers, and 100 per cent of non-smokers). Almost nine out of ten people (88 per cent) thought that smoking should not be allowed anywhere in these facilities⁴⁵.

Protection against second-hand smoke in UK workplaces lags behind that in certain other countries. For example, in the US, almost seven out of ten employees (69 per cent) work in places that are smoke-free⁴⁴.

Protection against passive smoking – the current situation

Various international bodies have made recommendations on the need to protect non-smokers from the health risks of second-hand smoke. Selected recommendations are presented in box 4: *Expert recommendations for the protection of non-smokers*.

Box 4: Expert recommendations for the protection of non-smokers

International bodies have highlighted the need for effective measures to protect non-smokers against the proven health hazards of passive smoking.

The WHO director general Dr Gro Harlem Brundtland has stated that: *'at the minimum, society is entitled to live and work in an environment where known health risks are controlled'*⁶⁰.

United Nations Children's Fund (UNICEF) executive director Carol Bellamy has stated that: *'Children have an absolute right to be protected from tobacco addiction, including the effects of adult smoking'*⁶¹.

In 1998 the WHO produced a strategy entitled the Third Action Plan for a Tobacco-Free Europe⁶². This focused on reducing the harm done by tobacco, and includes recommendations for the provision of smoke-free environments. The Fourth Action Plan⁶³, published in March 2002, makes a commitment to the implementation of comprehensive tobacco control strategies throughout the region, including measures to give *'protection against involuntary exposure to environmental tobacco smoke in public places and workplaces'*.

In 1999, a consultation on tobacco and the rights of the child convened by the WHO and UNICEF concluded that: *'Given that almost half of the world's children are exposed to ETS [environmental tobacco smoke], swift action on the part of States is required. Government policies should aim to ensure the right of every child to grow up in an environment free of tobacco smoke'*⁶⁴.

Intergovernmental negotiations are currently under way towards the WHO Framework Convention on Tobacco Control⁶⁵, an international treaty to protect public health against tobacco. WHO has proposed that the treaty include a recognition by governments that second-hand smoke is a health hazard and that it commit governments to appropriate action to ensure protection from passive smoking.

Regulation of environmental and workplace hazards is based on risk assessment (see box 5: *Regulating hazardous exposure*).

Box 5: Regulating hazardous exposure

Second-hand smoke is the leading cause of indoor air pollution. Exposure to second-hand tobacco smoke carries substantial health risks.

Regulatory authorities set protection levels for environmental exposures for the general population. The US Environmental Protection Agency⁶⁶ identifies one excess death per million people as an acceptable level of risk for environmental carcinogens and toxins present in air, water or food. Where the risk of death is higher than this, regulatory measures are justified. If such an approach were to be applied to the UK, this would mean that the threshold for regulation would be 60 excess deaths per year in the UK. It is estimated in the UK each year, deaths from lung cancer caused by passive smoking alone total several hundred.

Exposure to second-hand smoke in the workplace entails excessively high health risks. The US Institute for Occupational Safety and Health threshold sets regulating exposures in the threshold as one excess death per 1,000. This reflects the principle that workers are deemed to have accepted a higher level of risk than the general population, and the fact that workplace exposures are of shorter duration than ambient exposures. The US Institute for Occupational Safety and Health⁶⁷ has estimated that second-hand smoke in the workplace increases the risk of death from heart disease to seven per 1,000. This excess risk far exceeds the threshold for regulation of one per 1,000. Moreover, it has been estimated that passive smoking poses 200 times the acceptable risk for lung cancer, and 2,000 times the acceptable risk for heart disease⁶⁸.

The risks to individuals of workplace exposure are also substantial. An international evaluation of occupational exposure to carcinogens³⁹ found that among women who had spent their working life in a smoky atmosphere, the risk of lung cancer is multiplied by 2.67.

In the United Kingdom, there is no single piece of legislation that protects against passive smoking in public places or in the workplace. Instead, governments have sought to control exposure to second-hand smoke through a series of voluntary measures.

The most relevant legal provisions deal with health and safety in the workplace. An outline of current regulations, together with other legislation that may be relevant, is presented in appendix 1. It is important to note, however, that present UK health and safety law offers no explicit protection from the health effects of second-hand smoke.

In 1988, the Fourth Report of the Independent Scientific Committee on Smoking and Health⁵ (the Froggatt report) recommended that *'consideration should be given to ways of ensuring that in the work and leisure environments, in public transport and other public enclosed spaces smokers can be segregated from non-smokers.'*

In 1991, the Department of the Environment published a code of practice recommending that non-smoking should be the norm in public places and that smoking should be restricted to designated areas. It was hoped that public pressure would lead to public places such as shopping centres and leisure facilities becoming smoke-free⁶⁹.

Progress under the code of practice has been disappointing. Research commissioned by the Department in 1995 demonstrated that not one single category of public buildings – including hospitals – met the government target of having 80 per cent of establishments covered by effective non-smoking policies⁷⁰. Progress towards smoke-free workplaces has also been slow. In 1997, 42 per cent of those in work reported that their workplace was smoke-free – in 2000, the figure was 44 per cent.

In 1998, the Scientific Committee on Tobacco and Health⁷ (the SCOTH report) concluded that *'smoking in public places should be restricted on the grounds of public health'* and that *'wherever possible, smoking should not be allowed in the work place'*.

Recent initiatives

The government's policy for more effective protection against passive smoking is outlined in the White Paper *Smoking kills*⁷¹, published in December 1998. The White Paper states that: *'Hundreds of people die every year in the UK as the result of high levels of exposure to passive smoke.'*

It recognises that smoke-free areas offer the best protection: *'We agree that completely smoke-free places are the ideal.'* Beyond that, it states that segregation of smokers is the preferred option: *'the next best thing is separate rooms for those who want to smoke, and for those who do not want to smoke.'* However, it also states that where such facilities cannot be provided: *'separate areas are the next best thing, with good ventilation and air cleaning.'*

The White Paper also notes, however, that conventional ventilation cannot guarantee effective protection against the harmful health effects of passive smoking: *'we cannot endorse it as being as effective as smoke-free areas'*. (see box 6: *The ventilation myth*).

Box 6: The ventilation myth

Ventilation has been proposed as a solution to the problem of passive smoking. However, the evidence shows that conventional ventilation and air-cleaning systems do not provide effective protection against the health hazards of second-hand smoke.

Conventional ventilation systems commonly involve the partial dilution and re-circulation of filtered air. They are inadequate in offering protection from the harmful effects of second-hand smoke. Positive output ventilation, where air is exhausted from an enclosed space at a rate that completely replaces the air in the room, may reduce the risk, but does not eliminate it⁷².

Air-cleaning systems usually involve the filtration of air, which is then re-circulated. Because filtration systems can only filter out particles, they do not remove the gas phase of second-hand tobacco smoke. An assessment of filtered tobacco smoke concluded that it is as potent in inducing cancer as unfiltered smoke⁷³. Moreover, non-smokers exposed to filtered second-hand smoke showed increases in metabolites of tobacco smoke that were identical to those seen after exposure to whole second-hand smoke⁷⁴.

Because only the particulate matter in smoke is visible, ventilation filtration systems can give the non-smoker the impression that they are safe from exposure to second-hand smoke. Many people underestimate the extent to which they are exposed to tobacco smoke. A large US study⁷⁵ found that while nearly half of non-smokers claimed not to be exposed to second-hand smoke, their blood contained metabolites of nicotine.

The tobacco industry promotes a scheme called 'courtesy of choice' to the service industry⁷⁶. This scheme advises establishments to continue to allow smoking in certain areas, relying in part on ventilation systems to provide non-smoking areas.

Businesses installing expensive ventilation systems in the belief that they are protecting staff and the public from the ill-effects of second-hand smoke are mistaken. As the World Health Organisation has concluded⁷⁷: '*Since there is no evidence for a safe exposure level [to second-hand smoke], legislation limited to ventilation design and standards cannot achieve smoke-free workplaces and public places.*' Employers should be aware of the potential risks associated with a 'courtesy of choice' policy.

The White Paper does not advocate an outright ban on smoking in public places. Rather, it focuses on making progress through voluntary measures: '*We do not think a universal ban on smoking in all public places is justified while we can make fast and substantial progress in partnership with industry*'⁷¹.

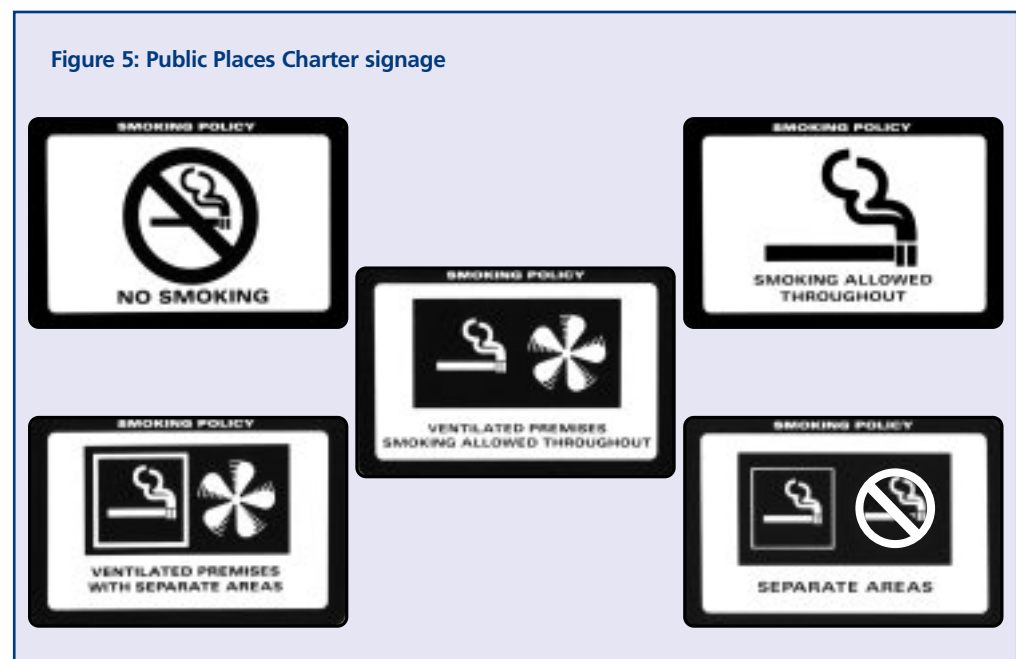
Two initiatives are proposed: the Public Places Charter, aimed at the licensed hospitality trade, and the introduction of an Approved Code of Practice on smoking in the workplace.

The Public Places Charter

The Public Places Charter⁷¹ is a voluntary agreement between the Department of Health and members of the licensed hospitality industry⁷¹. The Charter is a non-binding agreement, by which signatories commit themselves in principle to certain actions. The main outcomes are:

- *‘a written policy on smoking, available to customers and staff*
- *implementation through non-smoking areas, air cleaning and ventilation, as appropriate and whenever practicable*
- *and communication to customers through external signage to an agreed format and appropriate internal signs⁷¹.*

Five types of smoking policy are proposed: non-smoking, separate smoking and non-smoking areas; designated smoking and non-smoking areas; smoking throughout with ventilation; and smoking throughout. (See figure 5.)



The Public Places Charter was introduced in March 2000. The hospitality trade estimates that compliance with the Public Places Charter currently stands at 64 per cent. Between 2000 and 2002, the proportion of all of bars, pubs and restaurants with non-smoking areas remained relatively stable at 39 per cent – see table 6. The proportion of smoke-free premises increased from 1 per cent to 2 per cent.

Table 6: Percentage of licensed premises with non-smoking areas by year

Year	Per cent
1997	23%
1998	30%
1999	32%
2000	35%
2001	39%
2002	39%

Source: The Publican survey, 2002⁷⁸.

A substantial proportion of these premises rely on ventilation as part of their strategy.

The Approved Code of Practice

The government proposes an Approved Code of Practice (ACoP) on smoking in the workplace⁷⁹. An Approved Code of Practice would clarify employers' duties under current legislation (see appendix 1). It would provide legal guidance to employers on the steps they should take in order to comply with their duties under the 1974 Health and Safety at Work Act, setting out minimum standards employers are expected to reach in protecting their employees from second-hand smoke.

The ACoP has a special status under law. It is not of itself an offence not to comply with the code. However, a code can be introduced as evidence in a prosecution. Compliance with the code offers some legal protection to employers against claims that they have failed to protect smokers from passive smoking (see box 7: *Litigation and passive smoking*).

Box 7: Litigation and passive smoking

Failure to protect against exposure to second-hand smoke may leave employers open to legal actions. These include both civil and criminal cases.

A former Clydesdale Bank worker is seeking £50,000 damages. A chronic asthma sufferer, the employee claims to have developed serious respiratory problems after being exposed to second-hand smoke at work, even after regulations had supposedly been introduced⁸⁰.

In Milan, two bank managers have recently been convicted of criminal manslaughter following the death of an employee. Monica C. suffered a fatal asthma attack as a result of workplace exposure to second-hand smoke. In July 2002, the managers were found to have failed in their duty to protect her health, despite her repeatedly requesting to be moved and producing medical certificates to prove her condition⁸¹.

Employment tribunals have recognised the right to protection from passive smoking. In 1997, a former employee at a London law firm claimed that she had been forced to work in a smoky environment even though a smoking policy was in place. After suing the company for constructive dismissal the employee won the case before an industrial tribunal⁸².

Courts have also recognised the legitimacy of introducing smoke-free workplaces. In 1992, an employee of Greater Glasgow Health Board claimed constructive dismissal when, after extensive consultations with and three months' notice to all employees, a workplace smoking ban was introduced. The court found that the right to smoke was not an implied contractual term: therefore there was no right to smoke in the workplace⁸³.

In the USA, 60,000 airline flight attendants suffering from smoking-related diseases caused by second-hand smoke filed a class-action suit against the tobacco industry. Eventually, an out-of-court settlement was agreed whereby the tobacco industry paid US\$300 million towards a foundation carrying out research on smoking and \$46 million to cover the flight attendants' legal expenses⁸⁴.

Finally, in India, smoking in public places has been ruled illegal, after a right to protection from second-hand smoke has been established under the constitution. Article 21 of the constitution states: *'No person shall be deprived of life or personal liberty except according to procedure established by law.'*

The proposed ACoP advises that employers should: *'in consultation with employees*

- a) make judgements about the detriment to the employees' welfare from passive smoking,*
- b) assess the risk from passive smoking to the health of the employees who suffer from asthma, chronic bronchitis or other respiratory disease,*
- c) devise a smoking policy based on those judgements and assessments*
- d) implement the policy and*
- e) keep the health risk assessments, welfare judgements and policy under review.'*

The first round of consultation on the ACoP was completed in 1999. A second round of consultation was carried out in Spring 2000. In September 2000, the Health and Safety Commission recommended the adoption of the ACoP. At the time of writing, it has yet to receive final approval.

Evidence-based protection against passive smoking

Evidence-based policies to protect against passive smoking are effective. A Cochrane review of interventions to reduce smoking in public places concluded that *'carefully planned and resourced, multi-component strategies effectively reduced smoking within public places'*⁸⁵.

Restricting smoking improves health

Clean air policies improve the health of non-smokers. Policies that eliminate or substantially restrict smoking reduce exposure to second-hand smoke⁸⁶. Where policies to protect against passive smoking are introduced, health improves⁸⁷.

While the main rationale behind restrictions on smoking in public places is to protect the health of non-smokers, clean air policies have also been shown to benefit smokers. Smoking restrictions have been found to help those who wish to stop to do so, and to reduce the number of cigarettes smoked by continuing smokers (see box 8: *Smoke-free public places aid smoking cessation*).

Box 8: Smoke-free public places aid smoking cessation

Research shows that the introduction of restrictions on smoking in the workplace is effective in motivating smokers to quit, in helping those attempting to stop smoking to persevere, and in reducing overall tobacco consumption among those who continue to smoke.

The World Bank has concluded that smoking restrictions can reduce overall tobacco consumption by between four and ten per cent⁸⁸. Bans on smoking in the workplace have been found⁸⁹ to result in a 10 per cent decrease in the number of smokers, and reduce tobacco consumption among those who continue to smoke by 14 per cent. A review of smoke-free workplaces in the USA, Australia, Canada and Germany estimated that bans reduce smoking prevalence by 4 per cent and overall tobacco consumption by 30 per cent⁹⁰. Smoke-free workplaces also reduced tobacco consumption among those who continue to smoke on average three cigarettes per day⁹⁰.

Smoke-free policies reduce smoking for all demographic groups and for almost all types of workers. However, fewer successful attempts to quit and a lesser reduction in cigarettes smoked per day were seen when smoking was allowed in some parts of the workplace⁹¹, and where complete bans were not properly enforced^{92,93}.

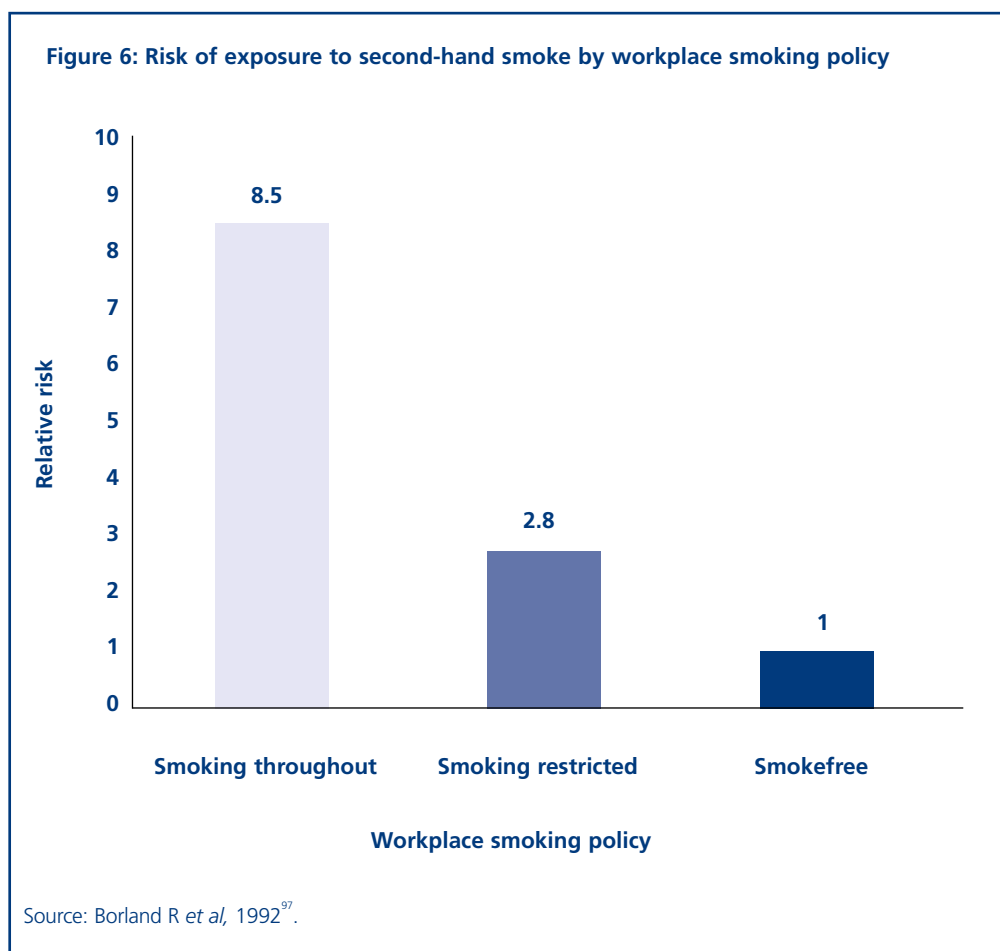
Clean air policies also have economic benefits. The United States Occupational Health

and Safety Administration has estimated that clean air increases productivity by three per cent⁹⁴.

Smoke-free is best

Smoke-free places offer the best level of protection. No safe level of exposure to second-hand smoke has been identified. Adverse effects can be detected at relatively low doses and short durations of exposure⁹⁵. Exposure to levels of tobacco smoke that may result in minor health effects in one individual may precipitate more severe effects in another person.

Partial restrictions are only partially effective. One study found that employees at worksites with partial restrictions on smoking were almost three times more likely to be exposed to second-hand smoke than those at smoke-free worksites. Workers at sites where smoking was not restricted were 8.5 times more likely to be exposed⁹⁶ – see figure 6.



The existence of a written policy does not itself guarantee any protection against passive smoking. Written smoking policies vary substantially in their content: they may segregate smokers from non-smokers; allow smoking only in designated areas; or even allow smoking throughout.

Designated smoking areas are of little use unless they are physically isolated from non-smoking areas. One US study⁹⁷ measured exposure to second-hand smoke among casino workers on smoking and non-smoking tables, but found no differences either in the ambient levels of tobacco smoke or in the amount of nicotine absorbed by workers in smoking and non-smoking areas.

The ideal is a smoke-free policy.

Smokers may experience difficulties in complying with smoking restrictions in public places owing to nicotine addiction. Support to help smokers to quit improves the success of strategies for smoke-free public places⁸⁵.

Ventilation offers little protection

The evidence shows that conventional ventilation cannot effectively protect non-smokers from the health effects of second-hand smoke.

Both the Froggatt report and the SCOTH report have noted that ventilation does not provide adequate protection for non-smokers. The tobacco industry is promoting ventilation as a strategy for protecting non-smokers. It has yet to admit passive smoking causes serious illness. (see box 9: *Passive smoking and the tobacco industry*).

Box 9: Passive smoking and the tobacco industry

The tobacco industry has yet to admit that passive smoking causes serious illness⁹⁸. Industry-wide studies on the health effects of passive smoking have been underway since the 1960s. Privately, the industry has conducted research that supports the conclusion that passive smoking harms health⁹⁹. Publicly, it has attempted to discredit the evidence concerning the harms caused by passive smoking¹⁰⁰.

The tobacco industry has commissioned scientists to discredit the scientific evidence that passive smoking harms health^{101, 102}. Organisations such as the Center for Indoor Air Research (CIAR) were established and funded by the tobacco industry to conduct research⁹⁹. An analysis of research sponsored by the tobacco industry through the CIAR concluded that: *'CIAR's stated mission of funding high-quality, objective research has been compromised by conflict of interest, and at least some of CIAR's projects are being used to promote the tobacco industry's agenda'*¹⁰³.

An independent inquiry showed how the tobacco industry mounted a million-dollar campaign against a large study of lung cancer and passive smoking coordinated by the WHO International Agency for Research on Cancer¹⁰⁴. The aims of the campaign were to: *'delay the progress and/or release of the study, affect the wording of its conclusions and official statement of results, neutralize possible negative results of the study... counteract the potential impact of the study on governmental policy, public opinion, and actions by private employers and proprietors'*¹⁰⁵.

The evidence also shows how the tobacco industry has sought to infiltrate and influence the hospitality industry, using hospitality associations to promote policies based on 'accommodation' of smokers and non-smokers⁷⁶. The tobacco industry has made substantial financial contributions to existing hospitality associations. Industry-funded groups have been established to oppose legislation for smoke-free public places. Smokers' rights organisations have also been set up that give the appearance of a broad consensus against proposed restrictions on smoking in public places¹⁰⁶.

The tobacco industry has also funded the development of a number of 'information' initiatives on smoking aimed at the hospitality trade. One such initiative is Atmosphere Improves Results (AIR), which advises the licensed hospitality trade in the UK on compliance with the Public Places Charter. AIR is funded by the Tobacco Manufacturers Association¹⁰⁷.

A recent systematic review of the introduction of smoke-free workplaces estimated that if all UK workplaces became smoke-free, consumption per capita in the entire population would drop by 7.6 per cent, costing the tobacco industry £310 million annually in lost sales⁹⁰. The opposition of the industry to smoke-free workplaces is echoed by their attempts to curtail the promotion of smoking cessation products by pharmaceutical companies¹⁰⁸.

Legislation, not voluntary measures

Legislation for smoke-free areas is more effective in protecting health than voluntary measures¹⁰⁹. Legislation should be clear and unambiguous. Restrictions should be clearly indicated, and adequately monitored and enforced.

Legislation for smoke-free public places has been successfully introduced in a number of countries, including the USA, Canada, and Australia (at both national and local levels). National legislation has been introduced in Finland, South Africa and Thailand, among other countries. (see box 10: *Smoke-free public places – some global examples.*)

Box 10: Smoke-free public places – some global examples

California

In 1994, California introduced state-wide legislation banning smoking in all public places. The law was fully enacted in 1998. The law requires that bars, restaurants and public places be made smoke-free¹¹⁰. Smoke-free policies in workplaces and public places were justified as protecting the rights of non-smokers. One study traced bar workers' exposure to tobacco smoke at the time the ban was being introduced, taking before and after measurements. It concluded that establishment of smoke-free bars and taverns was associated with a rapid improvement of respiratory health⁸⁷. Clean indoor air policies have also been recognised as reducing overall cigarette consumption.

Finland

Finnish workplaces have been totally smoke-free since 1995 (Tobacco Smoking Act), with the exception of restaurants and solo workplaces without any customer contact. The Finnish Parliament adopted legislation in 1999 providing progressively more smoke-free areas in restaurants. In 2000, the Finnish Parliament classified second-hand smoke as a carcinogen, with the result that it is regulated under Health and Safety legislation. By July 2001, smoking was permitted only in 50 per cent of the restaurant area, at maximum, on the condition that no smoke may spread to the smoke-free areas. Smoking is banned on public transport, in health and educational facilities, government buildings and all aircraft.

South Africa

South Africa provides protection for non-smokers against the effects of second-hand smoke through legislation. The Tobacco Products Control Act, introduced in 1993, prohibited smoking on public transport and in all health facilities, and gave local government the authority to ban smoking elsewhere. By 1998, 90 per cent of non-smokers and 70 per cent of smokers supported a stronger ban on smoking in public places. Further legislation was introduced in 1999 (Tobacco Control Amendment Act). This legislates for smoke-free public places including workplaces and most transport facilities. Smoking is permitted in restaurants only where smoking areas are completely separate from non-smoking areas. Enforcement is carried out by environmental health officers and the police. Fines range from R200 for smokers who fail to comply, to R200,000 for proprietors who flout the law.

Model legislative texts for smoke-free public places have been produced by the World Health Organisation¹¹¹. An example is presented in box 11: *Model legislative text for smoke-free public places*.

Box 11: Model legislative text for smoke-free public places

No person shall smoke tobacco or hold lighted tobacco in enclosed, indoor areas of any private or public work place, or any public place*.

For the purpose of this Act, private or public workplaces and public places include *inter alia* the following:

- a) offices and office buildings including public areas, corridors, lounges, eating areas, reception areas, elevators, escalators, foyers, stairwells, restrooms amenity areas, laundry rooms and individual offices;
- b) factories;
- c) health institutions;
- d) educational institutions of all levels;
- e) any premises in which children are cared for for a fee;
- f) any means of transportation used for commercial, public or professional purposes and used by more than one person;
- g) public transportation terminals;
- h) retail establishments including shopping malls;
- i) cinemas;
- j) concert halls;
- k) sports stadia;
- l) bars and restaurants;
- m) pool and bingo halls;
- n) publicly owned facilities rented out for events;
- o) any other facilities accessible to the public; and
- p) any other facilities that employ paid personnel.

All private and public workplaces and public places shall post signs, in accordance with regulations, that clearly indicate that the establishment is smoke-free.

The Minister/Government may make regulations:

- a) prescribing the location, content and format of any signs required to identify smoke-free establishments;
- b) generally as needed to carry out this part of the Act.

*Adapted from Province of Ontario (Canada), Tobacco Control Act, 1994.

Public awareness matters

Successful policies for smoke-free public places rely on an awareness of the health consequences of exposure to second-hand smoke and a level of social support⁸⁸. Legislation is most effective when supported by public information campaigns.

A comprehensive policy, progressively introduced

Legislation should make a clear commitment to smoke-free public places by a named date. Implementation can, however, be phased in over time. Clear targets must be set and the date on which particular measures come into force in various settings publicised in advance¹¹². Box 12 presents a model evidence-based approach, drawing on experience of introducing successful smoke-free public places in Brookline, Massachusetts.

Box 12: A model evidence-based approach to smoke-free public places: Brookline, Massachusetts

The town of Brookline, Massachusetts enacted a tobacco control bylaw in November 1993. The law progressively introduced restrictions on smoking in public places with allocated enactment deadlines. The first stage of enactment made all indoor public places and restaurants smoke-free. Other public places were given graduated deadlines. Most workplaces were given until January 1995 to comply. Restrictions in taxis were phased in over a period of a year: by March 1994, 25 per cent of taxis were non-smoking, and by January 1995, all taxis were smoke-free.

Licensed inns, hotels, motels and lodging houses were given longer to comply with the ban. By January 1994, 25 per cent of individual dwelling units or rooms were to be smoke-free, increasing to 50 per cent by January 1995 and 90 per cent by January 1996. A sign stating 'smoking prohibited by law' is required in the common rooms of these establishments.

All food service areas are smoke-free. However, until 1 January 2000, it was possible to apply to allow smoking in bars and lounges, by applying for a waiver from the Director of Public Health. The bar or lounge had to occupy a separate room with a ventilation system that outputs air at a rate of at least 110 per cent. The room had to be sited so that dining patrons could enter or exit the establishment without passing through the smoking area. A health warning notice was required to be displayed prominently (see below). Employees could not be required to work in smoking bars or lounges.

SMOKING IS PERMITTED ONLY IN THE LOUNGE

WARNING!

According to the US Surgeon General, second-hand smoke is a cause of disease, including lung cancer, in healthy non-smokers.

The EPA has classified second-hand smoke as a human carcinogen. Second-hand smoke can worsen symptoms of asthma, chronic bronchitis, angina pectoris, and allergies.

Cigarette smoke contains 4,000 chemicals. In it are such substances as acetone, arsenic, butane, cadmium, carbon monoxide, DDT, formaldehyde, hydrogen cyanide, methanol, and toluene.

TOWN OF BROOKLINE BYLAWS ARTICLE XLI: TOBACCO

Recommendations

I General

Protection from passive smoking is primarily a matter of health. Policies based on the concept of welfare or comfort fail to recognise the very real health risks of exposure to second-hand smoke. No safe level of exposure to second-hand smoke has been identified. Certain people are known to be especially vulnerable to adverse health effects, including children, pregnant women, and people with pre-existing heart and lung disease.

1. **Policies on smoking in public places must be based on the health hazards of passive smoking. They must aim to eliminate exposure to second-hand smoke. In the absence of any rational scientific basis for identifying individuals as immune from the harms of passive smoking, protective measures must be extended to all.**

Restrictions on smoking reduce tobacco consumption, and so run counter to the interests of the tobacco industry.

2. **When considering measures to protect non-smokers, it is important that scientists, policy makers, the media and the public recognise that on the basis of previous experience, it is likely that the tobacco industry will actively oppose such initiatives.**

II Smoking in public places

Passive smoking in the workplace is of particular concern. Healthcare facilities and healthcare professionals have a duty of care to their patients and a responsibility to protect health.

3. **Employers should take immediate action to protect the health of workers, in line with their duties under the Health and Safety at Work Act 1974, by ensuring all workers have effective protection from second-hand smoke.**
4. **Smoke-free healthcare facilities must be the norm.**
5. **Until a ban is in place, premises open to the public and which permit smoking should be required to display signage indicating that second-hand smoke contains toxins and carcinogens and causes diseases. In addition,**

premises relying on ventilation as part of a smoking policy should be required to display signage stating that it is not an effective protection against the health hazards of second-hand smoke.

III Legislation

The government has initiated an Approved Code of Practice on passive smoking at work and a Public Places Charter for clean air. While the proposed measures fall far short of BMA recommendations, the BMA has welcomed them as going some way towards protecting the public health. In light of the past failure of the voluntary code on smoking in public places, and continuing delays in implementing smoke-free public places under these new initiatives, further action by the Government is now necessary. Legislation to ban smoking in public places could play a major role in protecting non-smokers from passive smoking. We believe that many of the conditions for the successful introduction of clean air policies already exist in the UK.

- 6. Legislation for smoke-free public places should be introduced now. Such legislation should draw on the experience and lessons from successful smoke-free policies in other countries.**

IV Support for smoking cessation

Nicotine addiction is the main motivator behind smoking. Smoking is the single greatest cause of preventable illness and death. Giving up smoking at any age confers substantial health benefits.

- 7. Individuals who smoke and who wish to stop should be offered appropriate assistance and support. Smoking cessation services should be available in hospitals and in long-term stay facilities. Training should be available to doctors and other healthcare professionals to enable them to assess and refer individuals to specialist services.**
- 8. Introduction of smoke-free public places and workplaces should be coupled to support for smokers who wish to quit, through workplace-based and national campaigns such as ‘no smoking day’.**

V Education and public information

The press and media have both a vital role and a responsibility in communicating the health effects of passive smoking. Awareness of the health effects of passive smoking is lower among smokers than among non-smokers.

9. **Public information campaigns on the health risks of passive smoking should be developed.**
10. **Health warnings on cigarette packets should communicate the real risks of passive smoking. In particular, they should include specific warnings on risks of passive smoking to babies, children, pregnant women and those with existing heart and lung disease.**
11. **In line with the ‘polluter pays’ principle, educational campaigns on the health risks of passive smoking and the implementation, monitoring and enforcement of smoke-free public places should be funded by a profits tax on tobacco companies.**

VI International

Passive smoking is a significant health problem across Europe.

12. **The European Commission should make actions on passive smoking a priority, for example, by supporting initiatives to facilitate the exchange of best practice and knowledge and by introducing legislation for smoke-free workplaces and public places.**

The World Health Organisation is currently negotiating an international treaty on tobacco, the Framework Convention on Tobacco Control.

13. **Governments should support the inclusion in the WHO Framework Convention of clear, evidence-based measures in line with international best practice to inform the public of the dangers of passive smoking and to eliminate exposure to second-hand smoke.**

Appendix 1: Protection against second-hand smoke – current provisions

Current legal protection against the health hazards of second-hand smoking is at best patchy. The diagram below (see figure 7) illustrates how workplaces and public places are subject to a ‘patchwork’ of measures, which leave many people unprotected. While provisions have been made to protect employees against hazardous exposures in the workplace, the failure to take account of the very real risks posed by second-hand smoke means that these measures have not by and large been interpreted as conferring protection against second-hand smoke.

Figure 7: Current provision for protection against second-hand smoke

	WORKERS			GENERAL PUBLIC
	All	Workers with disabilities	Pregnant and recent mothers	
Legislation				
Regulation				
Voluntary agreement				

KEY



No protection in place from second-hand smoke



Measure in place does not offer explicit protection from second-hand smoke



Explicit provision made for protection against second-hand smoke

What is a workplace?

A workplace is defined by UK health and safety regulations as: *'any premises or part of premises which are not domestic premises and are made available to any person as a place of work, and includes: (a) any place within the premises to which such person has access while at work; and (b) any room, lobby, corridor, staircase, road or other place used as a means of access to or egress from that place of work or where facilities are provided for use in connection with the place of work other than a public road'*¹¹³.

What provisions might protect workers against secondhand smoke?

UK legislation and regulations

The Health and Safety at Work Act 1974

Under the Health and Safety at Work Act 1974 UK the employer must: *'provide and maintain a safe working environment which is, so far as is reasonably practicable, safe, without risks to health and adequate as regards facilities and arrangements for their welfare'*¹¹⁴. Where a health risk can be demonstrated, it is the duty of the employer 'so far as is reasonably practicable' to act in a responsible manner to eliminate it.

The Workplace (Health, Safety and Welfare) Regulations 1992

Regulation 6 requires employers to provide effective and suitable ventilation. Regulation 25(3) requires employers to protect non-smokers from tobacco smoke in rest areas¹¹⁵: *'Rest rooms and rest areas shall include suitable arrangements to protect non-smokers from discomfort caused by tobacco smoke.'* The Health and Safety Commission Plan of Work for 1992/93 states that *'it is appropriate to address problems where the risks cannot always be quantified but where there is evident scientific and public concern.'*

Employment Rights Act 1996

Under the Employment Rights Act 1996, workers have protection against unfair dismissal when raising legitimate concerns about health hazards, when they have *'brought to his employer's attention, by reasonable means, circumstances connected with his work which he reasonably believed were harmful or potentially harmful to health or safety'*¹¹⁶.

The Disability Discrimination Act 1995

This Act states that: *'it is the duty of [the] employer to make adjustments where any arrangements made by or on behalf of an employer, or any physical feature of premises occupied by the employer, place the disabled person concerned at a substantial disadvantage in comparison with persons who are not disabled.'*¹¹⁶ Those with existing health problems or disabilities that are aggravated by passive smoking might be protected under this Act. However, the Act also states that: *'regard shall be had, in particular, to the extent to which it is practicable for the employer to take the step and the financial and other costs which would be incurred by the employer in taking the step and the extent to which taking it would disrupt any of his activities.'*

European directives

In addition, a number of European directives augment national legislation, and provide clear workplace health and safety standards¹¹⁷. The following have been implemented in the UK through the use of statutory instruments¹¹⁸:

Directive on the protection of the health and safety of workers from the risks related to chemical agents at work (Council Directive 89/391/EEC) and the Management of Health and Safety at Work regulations

The Management of Health and Safety at Work Regulations 1992¹¹⁹ established minimum requirements for the effective managerial control of health and safety matters at work. To promote greater compliance with statutory provisions, employers are required to assess the health risks of employees and inform them of this assessment. The regulation came into force on 1 January 1993 and has now been updated to the Management of Health and Safety at Work Regulations 1999.

Safety and Health at Work of Pregnant Workers (Directive 92/85/EEC)

This directive¹²⁰ identifies pregnant or recently pregnant workers as a group in which the risk of exposure to hazardous working conditions must be assessed. The employer should ensure that such groups are protected from health risks in the working environment. *'The Commission attaches the greatest importance to all measures designed to protect the health and safety of workers, and notably certain groups of particularly vulnerable workers such as is clearly the case of pregnant workers and workers who have recently given birth or are breastfeeding – all the more so because the risks to which they may be exposed are liable to damage not only their own health but also that of their unborn or new born children.'*

The Directive on the Protection of Workers from Carcinogens at Work (Directive 90/394/EEC)

This directive relates to the Control of Substances Hazardous to Health (COSHH) Regulations¹²¹. The aim is to protect workers against the health and safety risks of exposure to known carcinogens. However, this measure has not provided protection against second-hand smoke. This is because second-hand smoke is judged to have arisen not from the work environment, but from those working in it.

Other regulations controlling smoking

Aside from the direct health hazards caused by passive smoking, the cigarette is both a fire hazard and a hygiene problem. An estimated 200 people are killed and 2,000 seriously injured in smoking related fires annually in the UK. Hence smoking is restricted in certain areas on the grounds of fire hazard. In addition, The Food Safety (General Food Hygiene) Regulations 1995 and the accompanying Guide to General Food Hygiene Regulations specifically state: *'anyone whose work involves handling food should never smoke in food handling areas.'*

The Tobacco Control Resource Centre has developed an online database with all the references used in *Towards smoke-free public places*. The reference database has a brief abstract with each reference and can be searched by keyword or phrase. References can either be printed or downloaded to a citation manager such as Reference Manager(R) and ProCite(R). For full free access to the database visit:

http://tcrc.globalink.org/tcrc_Web_Site/Pages_tcrc/Resources/Passive_References.

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Towards smoke-free public places

This report from the BMA Board of Science and Education & BMA Tobacco Control Resource Centre examines health risks associated with smoking in public places, and makes evidence-based recommendations for effective measures to protect the public health.

It summarises the scientific and medical evidence that passive smoking harms health and describes the nature, extent and impact of involuntary exposure to tobacco smoke in the United Kingdom today. It reviews the effectiveness of possible policy options and highlights the urgent need for decisive action to protect the public from the adverse health effects of passive smoking in public places.

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