Fifty years since *Smoking and health*

Progress, lessons and priorities for a smoke-free UK

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Royal College of Physicians

UK Centre for Tobacco Control Studies
A UKCRC Public Health Research Centre of Excellence

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Progress, lessons and priorities for a smoke-free UK

Papers from a conference held in March 2012 to mark 50 years since the publication of the RCP report *Smoking and health*

The Royal College of Physicians (RCP) is an independent professional membership organisation and registered charity, representing over 25,000 physicians in the UK and internationally.

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Foreword

1962. A world suffocated by the swirling clouds of tobacco smoke, in pubs, cinemas, trains, buses, on the streets, and even in hospitals and schools. Around 70% of men and 40% of women smoked. Smoking was omnipresent, accepted, established.

Into that world Sir Robert Platt, then president of the Royal College of Physicians (RCP), launched the report *Smoking and health*, with another first – the RCP's first press conference on 7 March. This brave report, with policy recommendations based on the research of Sir Richard Doll and Sir Austin Bradford Hill, caused a media storm and an ambivalent, even hostile response from some quarters of government, media and society. It also began five decades of action on tobacco control at the RCP.

During this time, the death toll from smoking continued to be the highest from any single cause – over six million premature deaths in five decades. At the 40th anniversary of the report, the then RCP president Sir George Alberti recognised the human tragedy behind this cold statistic, and was deeply saddened at the lack of progress in tackling our biggest killer.

I am delighted to report that in the past decade we have made much more progress than might have been expected. A ban on smoking in public places, a ban on tobacco advertising and promotion, the success of NHS cessation services, and continued government commitment to tobacco control have been major contributors to a very different UK to that of 50 years ago. Smoking-related deaths have been decreasing steadily. If Sir Robert could return, I am sure he would be extremely proud of the progress we have made in implementing the report's original recommendations.

2012. A world in which smoking is no longer the norm. Our schools, hospitals, pubs, cinemas and public transport are subject to smoke-free legislation. Only 21% of the population smokes. Government, media and society have largely accepted the need to protect people, particularly children, from much of the harm associated with tobacco smoke.

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The RCP did not, of course, achieve this single-handedly. In 1971 the RCP set up Action on Smoking and Health (ASH) to campaign and lobby on tobacco issues where at that time it was felt the RCP would be unable to do so. Successive chairs and directors of ASH have turned it into a powerful and effective organisation, a model copied all over the world. Now, the two organisations work successfully side by side, dovetailing our efforts with other health and environmental organisations, medical and research charities, and specialty societies. The wider smoke-free coalitions that have emerged over the past two decades have added new perspectives and invaluable extra resource to the fight against what is still our biggest killer.

I would like to acknowledge the contributions of all my predecessors in the past 50 years for leading, supporting and encouraging the RCP's work on tobacco control. Two people in particular deserve special thanks - Professor John Britton and Linda Cuthbertson, the chair and secretary of the RCP's Tobacco Advisory Group, for their enduring commitment and energy in successfully pursuing our tobacco-control strategy over the past 15 years. ■

> **Sir Richard Thompson** March 2012
President, Royal College of Physicians

Part 1 Smoking and health in Britain: achievements and implications for the future

1. Smoking and health: UK smoking since 1962

Professor Martin Jarvis Emeritus professor of health psychology, University College London

The 1962 report of the Royal College of Physicians (RCP) was the seminal event that finally established in the public mind the extent of the impact of smoking on health. Cigarette smoking was virtually unknown at the beginning of the 20th century, but increased inexorably, fuelled by two world wars, and reached epidemic proportions by the middle of the century. By 1959, when the RCP committee started its deliberations, over 70% of men and 40% of women in the UK were tobacco smokers, mostly of cigarettes. Primarily because duration of smoking habit is an important determinant of risk, deaths from smoking increased with a time lag of about 20 years from smoking prevalence. Death rates in 1960 were still rising steeply, reflecting smoking habits in the immediate post-war period, with the implication that even sharp declines in smoking would not be matched by reductions in smoking-attributable deaths for some years.

In the event, the report had an immediate shock effect on both cigarette consumption and smoking prevalence, before something of a plateau during the rest of the 1960s. Major declines in smoking proved hard to achieve, owing to the addictive power of nicotine, and required further reports from the RCP and the slow development of political will and tobacco control policies. In the 50 years since the publication of *Smoking and health*, prevalence has declined by an average of less than 1% of the population per year, reaching around 22% in men and 20% in women by 2009.

Declines in smoking prevalence have been accompanied by substantial changes in demographic and socio-economic patterns of smoking. Rates of smoking in men and women

have converged, as cohorts of older women who never smoked have died and been replaced by young women whose smoking patterns closely match men's. A steep gradient in smoking by socio-economic group has emerged where none existed in 1960, as middle-class and affluent smokers have quit, and far fewer poor and disadvantaged smokers have been able to achieve this. In 2009, cigarette smoking prevalence in manual groups (26%) was close to double that in non-manual groups (16%).

The 1962 report focused on cancer (especially lung cancer), cardiovascular disease (myocardial infarction and stroke), and chronic obstructive lung disease (now termed chronic obstructive pulmonary disease – COPD) as the principal diseases caused by smoking. These remain responsible for the great majority of smoking-attributable deaths to the present day, but *Smoking and health* was far from the last word on the nature and extent of smoking-related disease. The British doctors study, begun in 1951, continued to identify risks for morbidity and mortality, and to specify the degrees of risk more precisely through 50 years of follow-up. The overall risk of death for a continuing lifetime smoker was estimated at 1 in 4 at the 20-year follow up, but, after longer follow-up experience, was raised to 1 in 2. Among adults aged 35–69, annual all-cause mortality attributable to smoking in men peaked in 1965, at 7.57 per 1,000, declining to 2.1 by 2000. In women of the same age, the peak came in 1985, at 1.62 per 1,000, and declined to 1.08 by 2000. Among older adults, peak smoking mortality came later: 1975 in men and 1995 in women. Total deaths from smoking continued to rise through the 1960s, peaking in 1970 in men, when 35% of all deaths were attributable to smoking, and in 2000 in women, when 16% of deaths were caused by smoking. Declining smoking prevalence led to substantial reductions in cardiovascular and respiratory deaths, but most strikingly in deaths from lung cancer, which for young men in their thirties declined by 90% between 1960 and 2000.

The topic of passive smoking was not addressed in the 1962 report. Indeed, the term 'passive smoking' was only coined in about 1970, and effects of breathing other people's smoke on lung cancer and heart disease were not identified until the early 1980s, and definitively established some years later. As a result, restrictions to protect non-smokers from passive smoking were few until the 1990s. In the 1980s, the ubiquity of tobacco smoke in public and private spaces meant virtually all non-smokers had measurable concentrations of smoke products in their bodies. The past two decades have seen a steep continuing trend of declining exposure in both adults and children, as bans on smoking on public transport and in many public buildings were followed by a legislative ban in 2007, and households, including those with smokers, increasingly adopted smoke-free rules. These major social shifts were only possible because of the earlier acceptance of the devastating effect of smoking on smokers' own health. Fifty years on from the publication of *Smoking and health*, huge progress has been made in reducing death and disease from smoking. Every year, many thousands of people who would have died prematurely from tobacco continue to live healthy

lives. Smoking prevalence has declined by about two-thirds since the early 1960s, reflecting both quitting in existing smokers and lower recruitment of new smokers to replace those killed by tobacco. But despite this progress, smoking remains the largest preventable cause of premature death in the UK, responsible for 18% of deaths – around 100,000 – each year. At the same time, the increasing concentration of smoking in deprived groups may make the achievement of further declines in smoking prevalence and smoking-related deaths more challenging. Smokers who continue to smoke will continue to run a 50% risk of dying from tobacco-related illness. Set in train by *Smoking and health*, the process of reducing, and eventually eliminating, smoking-related disease still has a long way to run. ■

2. Lessons from 50 years of tobacco control in the UK

Deborah Arnott Chief executive, Action on Smoking and Health

The world was a different place in 1962, when smoking was the norm[1] and largely regarded to be a matter of free choice. The harm caused by smoking went largely unacknowledged, not just by the tobacco industry but by society at large. The 1962 Royal College of Physicians (RCP) report,[2] which described the health risks of smoking unequivocally and for the first time to the public as well as to a professional audience, caused a seismic shift in attitudes to smoking and to the role of government in the public health aspect of smoking.

The impact of the report has been global, and its recommendations have become the core of tobacco control policies worldwide over the last 50 years. Indeed, the world's first health treaty, the World Health Organization's *Framework Convention on Tobacco Control*, enshrines at its heart the policy measures first set out in the report.[3]

The report was visionary in that it not only set out the evidence about smoking-related harm, but also urged government to take action. In contrast, the US surgeon general's report, published two years later to great acclaim, went no further than to itemise the impact of smoking.[4] The RCP report's recommendations, set out below, envisaged a comprehensive strategy and prioritised population-wide over individual strategies:

(1) *more education of the public – and especially school children – concerning the hazards of smoking*
(2) *more effective restrictions on the sale of tobacco to children*
(3) *restriction of tobacco advertising*
(4) *wider restriction of smoking in public places*
(5) *an increase in tax on cigarettes, perhaps with adjustment of the tax on pipe and cigar tobaccos*

(6) informing purchasers of the tar and nicotine content of the smoke of cigarettes
(7) investigating the value of anti-smoking clinics to help those who find giving up smoking difficult.

The report was truly innovative, not only in its content but also in how it was promoted. The RCP hired a PR consultant to orchestrate the launch, and for the first time ever held a press conference.[5] The report received widespread publicity and had a significant impact in driving down smoking prevalence.[6] Sadly, the government did little to implement the RCP's recommendations.

However, the RCP has adhered to the principle 'if at first you don't succeed, try, try again' – with great success. Charles Fletcher, the TV doctor behind the 1962 report, went on to be co-author on a report on 'The limitation of smoking', presented to the World Health Assembly in 1970. This recommended a range of actions, including an end to cigarette advertising and promotion, and was endorsed by the second RCP report on smoking published in 1971. Recognising that it could not succeed in changing government policy without continued advocacy, the RCP also set up Action on Smoking and Health (ASH) in 1971.

Such advocacy continues to be necessary as the tobacco industry evolves to survive. In line with the RCP recommendation, TV advertising was banned in 1965, but developing sports sponsorship enabled the tobacco industry to promote its products even more widely on the BBC as well as on commercial channels. In 2002 legislation was passed to end advertising, promotion and sponsorship, but still left packaging and display as potent promotional tools for the tobacco industry. In England, tobacco displays will be removed from large shops in 2012 and from small shops in 2015. Australia is enforcing plain, standardised packaging from December 2012, and the UK is consulting on the possibility of following suit. The industry will continue to find new ways to promote its products, so must be required to publish data on all its sales and promotional activities so that public policy can keep up with tobacco industry practice.

Although based on little hard evidence at the time, other recommendations that have passed the test of time include the use of tax to decrease the affordability of cigarettes,[7] which has been widely proven to be an effective population strategy to reduce cigarette consumption, as long as the illicit market is properly controlled.[8] The pilot anti-smoking clinics that sprang from the RCP's 1962 recommendation have matured into one of the most cost-effective health interventions, free at the point of delivery to all smokers.[9] Mass media campaigns motivating and encouraging smokers to quit, backed up by earned or unpaid media, are now a core part of a comprehensive strategy, which between 1998 and 2008 was accompanied by more rapid declines in youth smoking than adult smoking.[8]

However, other recommendations have had to be revised in the light of the evidence. In 1962 it was believed that 'more education of the public and especially schoolchildren

concerning the hazards of smoking'[2] would inherently lead to reduced smoking prevalence. But the focus on schoolchildren, and the assumption that increased knowledge would change attitudes and behaviour, were found to be counterproductive. The tobacco industry is very keen on youth smoking prevention campaigns, because by making smoking appear forbidden and adult, they make it more, not less, glamorous and attractive to young people.[10] The evidence is now clear that the best way to prevent young people from taking up smoking is to get adults to quit.[11]

Recommendations to provide information on the tar and nicotine content of smoke have also proved ineffective, as the demand for nicotine drives smokers to compensate for reduced concentrations with more intense patterns of smoking. The emergence and promotion of low-tar brands has in fact probably been counterproductive to smoking prevention by encouraging a false perception that these products reduce the risk of smoking. [12]

For years the 'harm principle' of John Stuart Mill,[13] an axiom for politicians in the UK, was used to argue against regulation of smoking in public places. The debate was mired in discussion about the claimed 'freedom' and 'rights' of smokers, and the need for 'voluntary' shifts towards compromise solutions, particularly in pubs, restaurants and clubs. The failure of the hospitality trade's Public Places Charter to control smoking in pubs epitomised the failure of voluntary measures to control smoking.[14] However, it wasn't the failure of the voluntary approach, but the evidence provided by the RCP on the number of deaths caused by passive smoking, which was key to reframing the debate around the rights of non-smokers.[15] Mill's philosophy then became a potent argument for legislation, leading to the overwhelming victory for comprehensive smoke-free legislation in parliament on a free vote.

The RCP continues to play a leading role in evidence-based policy development. The idea of tobacco harm reduction, first proposed by the RCP in 2002[16] and followed up by a more detailed report in 2007,[18] with strong support from ASH,[17] has led to the adoption of a harm-reduction strategy based on better access to alternative safer nicotine products by the Department of Health, the Medicines and Healthcare Products Regulatory Agency (MHRA) and the National Institute for Health and Clinical Excellence (NICE).[19] Regulation of tobacco is now core to health policy, largely unaffected by changes in government. The current UK coalition government may be committed to scaling back regulation, but nonetheless accepts that tobacco is an exception to the rule.[19] The UK now scores significantly higher than all other European nations on its tobacco policy and is at the forefront of global tobacco policy, alongside other world leaders such as Australia and Canada. [17]

Much has been learned since 1962. Firstly it has become clear that the industry will always find its way around voluntary measures, and that strict regulation backed up by enforcement is essential if tobacco control policy is to be successful. Secondly, it is evident that, for smoking prevention, the most effective policies are those aimed at changing behaviour at the population level, not the individual level. Thirdly, experience demonstrates that a

comprehensive strategy is essential, but also that it must be evaluated and improved over time if it is to continue to be effective. Yet despite all that has been achieved, and although smoking rates in the UK are less than half what they were in 1962, smoking remains the norm among the most disadvantaged in society, and one in five of the adult population are still addicted to tobacco. Smoking remains the largest avoidable cause of premature death and disability, and of social inequalities in health in the UK. The tobacco industry continues to evolve to survive and we must too if we are to succeed in ending the harm caused by tobacco. ■

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3. Smoking in children and vulnerable adults

Professor Amanda Amos Professor of health promotion, Centre for Population Health Sciences, University of Edinburgh; and UK Centre for Tobacco Control Studies

Preventing smoking in children is a key aim of tobacco control, and there has been considerable success in reducing smoking uptake in Britain over the last few years. Between 1996 and 2010 the prevalence of regular smoking among 15-year-olds declined from 31% to 13% in England, and from 30% to 13% in Scotland. However, there are considerable challenges in maintaining this decline, particularly as smoking has become increasingly concentrated among disadvantaged young people. Also there has been a much more modest reduction in smoking rates among older British adolescents, from 29% of 16- to 19-year-olds in 1996 to 24% in 2009.

A recent review of research on smoking among young people identified a range of factors operating at the individual, social, community and societal levels, which increase children's and young people's risk of becoming smokers. In particular, smoking uptake is linked to disadvantaged social, educational and economic trajectories. Young people are most at risk of becoming smokers if they grow up in families and communities where smoking is the norm and where they have access to cigarettes. For example, children whose parents and/or siblings smoke are more likely to become smokers. During adolescence they move into social networks and peer groups with similar smoking norms, where smoking is valued in social relationships, and they think that smoking helps project the type of image to which they (and their friends) aspire. Young smokers are also more likely to believe that smoking helps them to deal with difficult psychosocial aspects of adolescence and transition, including stress, anxiety and boredom.

Markers of disadvantage and exclusion in adolescence continue to play an important role in smoking in young adults and adults more generally. For example, in Scotland young adults

(16- to 24-year-olds) who are not in education, employment or training (NEETs) are nearly three times more likely to be smokers than those in further or higher education. Among adults generally the highest rates of smoking and lowest quit rates are found among those who are disadvantaged and/or excluded. A recent study, which scored people in England according to their number of personal indicators of low socioeconomic status (SES), found that 15% of those with no indicators of low SES smoked, whereas 60% of those with the most indicators of low SES (6 to 7) smoked. Smoking rates are also very high in other disadvantaged and excluded groups, including prisoners, the homeless and those with mental health problems. For example, 76% of prisoners in Scotland smoke, an estimated 90% of homeless people are smokers, and people with neurotic disorders (eg depression, phobias) are twice as likely to be smokers as those with no neurotic disorder. Thus many of the factors which increase children's and adolescents' vulnerability to taking up smoking also play an important role in maintaining such vulnerability among disadvantaged and excluded adults. In addition, these factors reinforce smoking dependence and high consumption, which, compounded by higher levels of negative life events and limited resources and opportunities, can make quitting very difficult. Many regret becoming smokers and want to quit smoking. For example, over half of prisoners in Scotland who smoke say that they would like to quit. However, until recently, little support and insufficient tailored smoking cessation services have been available to meet the needs of these disadvantaged groups.

Disadvantaged children, young people and adults are also likely to be exposed to higher levels of second-hand smoke (SHS) than those from more privileged backgrounds. This is in part due to the higher rates of smoking in parents and adults in these groups, but also to the lower levels of smoking restrictions in disadvantaged homes and residential accommodation in psychiatric hospitals and prisons. There is good evidence that the national smoke-free legislation reduced SHS exposure in children and adults across the UK, and has had significant health benefits. However, studies have found that children and adults from more disadvantaged homes showed relatively lower reductions in exposure to SHS. More action is needed to protect these vulnerable groups from SHS exposure where they live, whether it be in 'private' homes or 'public' residential accommodation.

Further action is needed at national and local levels to prevent smoking uptake in children, to help vulnerable adults to quit smoking, and to protect children and adults from SHS. There is clear evidence identifying the most effective policies and interventions to prevent smoking uptake, and these should be combined in a comprehensive approach, incorporating action to reduce young people's access to tobacco and cigarettes, and continuing to denormalise smoking so that it becomes less desirable and acceptable to use tobacco. Reducing access involves regularly increasing the real price of cigarettes through taxation, enforcing age-of-sale laws, and tackling alternative sources of cigarettes, including proxy sales and cheap black market sources. Adequately resourced national social marketing and mass media

campaigns which challenge positive social norms about smoking are essential to continue the decline in smoking in young people, and can have the double benefit of reducing smoking in adults too. Reducing adult smoking also further helps to reduce smoking uptake in young people. In addition, more action is needed to reduce positive images of smoking in the media (notably films) and to stop young people from being exposed to the marketing tactics of tobacco companies, through implementing the legislation banning point-of-sale advertising and introducing mandatory plain packaging for cigarettes. More research is needed to develop effective interventions for older adolescents and young adults, and to reduce inequalities in smoking among children and adults. Finally, tobacco control strategies need to be complemented by policies which address the wider social, educational and economic determinants of disadvantage which make children and adults more vulnerable to becoming, and staying, smokers. ■

4. The ethics of tobacco control: the role of individuals, businesses and the state

Professor Richard Ashcroft Professor of bioethics, School of Law, Queen Mary University of London

We have known for more than 50 years that smoking is hazardous to the health of the smoker, and for more than 25 years that smoking is also hazardous to the health of people exposed to second-hand smoke. The habit-forming characteristics of smoking have been recognised for decades, and since the 1980s there has been consensus in the scientific community and within the tobacco industry that tobacco dependence is properly an addiction. No one can seriously deny that tobacco is a dangerous substance. And yet by a variety of means the tobacco industry and its allies continue to promote the beliefs and arguments that there is doubt about the harms of passive smoking; that smoking is a mere lifestyle choice, and one freely chosen; and, increasingly, that smokers are a persecuted minority. Meanwhile, it is aggressively pursuing expansion of its markets in the newly industrialising countries and developing world, flouting laws (both openly and covertly) which are passed to control the sale and marketing of tobacco, and aggressively litigating to protect its interests in the face of measures taken to promote public health and tobacco control.

There are a number of different ethical strands to tobacco control. The first is focused on reducing the extent of tobacco-related morbidity and mortality. In the developed world, this focus acknowledges that tobacco use is widespread, and socially and culturally established. Tobacco control therefore emphasises: information to consumers (both the control of tobacco advertising and marketing and the dissemination of health promotion information through various channels); control of sales to vulnerable groups (particularly children); regulation of sales outlets; and increasingly strict limitations on smoking in public places. These measures

aim to improve awareness among smokers and non-smokers of the harms of smoking to the smoker and to others, to: discourage initiation into smoking; encourage smoking cessation; and reduce the harms caused to vulnerable or non-consenting third parties. Alongside these measures, 'harm reduction' is an increasing focus of research and product development, to allow smokers who cannot quit, or who wish to smoke more safely, to continue to do so using a safer product which does not produce sidestream smoke. Harm reduction is controversial in some circles, but has some support within public health as part of a package of measures to help smokers quit.

All of these strategies acknowledge the centrality of individual liberty and preferences. Up to a point, smoking can be a choice and a source of pleasure and enjoyment. This is of course offset by the short- and long-term health hazards of smoking, its addictive nature, and the strong wish that most smokers have to quit. Nonetheless, there is little public appetite for complete prohibition of smoking or of tobacco products, in part because of strongly and widely held views about individual liberty. However, this emphasis on liberty in policy debates (as opposed to safety or harm or addictiveness) is quite deliberately fed by the tobacco industry through its media and public relations strategies, using key opinion leaders to promote the ideas that smoking is the free choice of consenting adults, and that tobacco control is inherently 'nannying'. This is consistent with long-term strategy of the industry over the past 100 years, which has successfully linked the promotion of smoking to the promotion of ideas of freedom, independence and sophistication. This idea has been promoted to children, women, the working class, and now especially, to the developing world populations where smoking is associated with urbanisation, wage labour, and entry to the global economy.

While the public health community has quite rightly sought to develop its tobacco control approaches consistently with a respect for autonomy, personal liberty, and anti-paternalism, the tobacco industry has felt no such compunction, and has consistently used banners of liberty, 'corporate social responsibility', 'freedom of speech' and other libertarian shibboleths to mislead the public and undermine public health messages. As noted above, it is now adapting these strategies, and its marketing methods generally, aggressively to open new markets in the developing world. We need now to consider tobacco control as a global initiative, and to consider how the public health community can move on from the successful adoption of the World Health Organization's *Framework Convention on Tobacco Control* to its consistent implementation, and to building links between the Convention and international human rights and world trade law. Arguably different methods are needed to prevent the expansion of what many would consider an epidemic of tobacco use and tobacco-related illness, as distinct from the strategies developed in the first world to manage transition to tobacco-free societies.

Ethical debates in this important area need to face:

> the traditional focuses on autonomy, freedom, and harm prevention and reduction

- the reality of tobacco control in a market dominated by powerful corporations with consistent track records of deliberate falsehood, the use of sophisticated media, and cultural management techniques
- the bigger picture of the conflict between systems of international governance focused on health and human rights on the one hand, and those focused on trade liberalisation and globalisation on the other.

At a time when, worldwide, the tide has turned against seeing the role of government as strongly regulatory and interventionist, in favour of seeing a responsibility to promote trade and economic growth in an economic downturn, we need to reconsider how to situate tobacco control to engage with this now dominant image of the role of the state. But we also need to scrutinise the role of government here, and press for regimes worldwide to do more to respect their real moral and legal obligations to protect their citizens from tobacco's harms. ■

Part 2 Preventing smoking: promotion, price and access

5. Promoting smoking and tobacco products: where does it still happen?

Professor James D Sargent Professor of paediatrics, Dartmouth Medical School, New Hampshire, USA

Advertising has always been crucial to maintaining a large and viable tobacco market. Image advertising develops brand personality, for example the Marlboro cowboy, and recruits young smokers by imbuing favourable expectancies (what smoking can 'do for me') and prototypes (what typical smokers are like). Since most direct and indirect advertising of tobacco was prohibited in the UK by the 2002 Tobacco Advertising and Promotion Act, tobacco companies have had to rely on smoking imagery in other media portrayals to communicate favourable smoking imagery. Smoking is found on television, the internet, in video games, music and film, all of which have been shown to transmit billions of favourable smoking images to youth across the globe.[1,2] Entertainment media represent the last stand for pro-tobacco imagery in countries like the UK which have strong tobacco marketing regulations.

Films

Films represent the top of the entertainment media food chain, and the most notable source of pro-tobacco imagery. Although smoking portrayals in UK films are slowly declining in frequency,[3–6] recent data demonstrate that 59% of the most popular contemporary films over the past 20 years contained smoking imagery, and that brand appearances, particularly Marlboro and Silk Cut, were more common in films with British production involvement (for instance, the Marlboro brand appeared in the UK15-rated 2005 film *The constant gardener*).[3] Because most films with smoking are rated as appropriate for youth viewing,[2,7] youth in Britain were exposed to over 1 billion impressions of smoking in films on general release between 2001 and 2006 alone.[7] Major screen actors have strong name recognition across

an international audience, making them ideal candidates for endorsement of smoking. They operate in a context in which viewers have suspended their disbelief, and hence their scepticism toward the favourable smoking message. Whether or not the film character who smokes is a positive or negative role model, the film star who smokes almost invariably is. That exposure to film smoking causes smoking among young people is evident from the fact that the exposure consistently predicts onset of smoking across populations; shows a dose–response relation;[8] and remains after extensive adjustment for potential confounders such as age, educational achievement, personality and smoking by peers parents and siblings. The effect appears to be as strong as that of exposure to family smoking.[9]

Television

Television options are expanding greatly in Britain, as they have in America, with the proliferation of cable TV. Subscribers to satellite services may have upwards of 200 free-to-air channels that deliver American and UK television programming and films. Thus, television is a major source of viewership of film and its associated smoking imagery, but 34% of BBC-produced television programming also contains some smoking. A recent content analysis found tobacco use in 12% of BBC programmes, particularly in reality TV (which contained as much as films), comedies and dramas. Television is thus important as a source of recycled film tobacco content, but also because tobacco use is incorporated into some television programming.

The internet

The internet represents a vast unregulated medium for current and future delivery of tobacco imagery, with much stronger interactive potential than conventional media. A YouTube search for the term 'smoking' as early as 2007,[10] returned almost 30,000 videos, half of the top 50 of which contained tobacco imagery when sorted by relevance, and one-quarter when sorted by number of hits. Although most were in fetish videos, the two most viewed were music videos. YouTube smoking hits have since increased substantially,[11] with a search at the end of 2011 returning 707,000 hits. Smoking fetish videos on YouTube typically involve a single female model inhaling, exhaling, holding and lighting up cigarettes. One-third of these would be rated adult by Motion Picture Association of America rating standards, but 85% were accessible without any restriction.[12] However, YouTube excludes sexually explicit material; a Google search for 'smoking fetish site' on 31 December 2011 returned over 21 million results. The extent to which young people access any of these large caches of pro-smoking imagery is not known, though methods of measurement are established[13] and need to be applied to monitor exposure.

Video games

The video games industry is a multibillion dollar one, widely popular with adolescent and young adult males. With the extent to which gamers become involved and sympathetic with

the characters they choose to play, the depiction of smoking by those characters could convey positive expectations for smoking. Thus, the potential for exposure is great, but smoking in video game characters is understudied. A 2006 study found tobacco use in 22% of games, occurring in between 1% and 8% of gameplay,[14] but although a recent game – *Starcraft II: wings of liberty* – involves soldiers smoking branded cigarettes, it is not currently known how common this type of exposure is, or whether exposure is related to smoking behaviour.

Music

Music is a key socialising force among young people, and musicians often achieve cultural notoriety equivalent to that film stars. Music sponsorship and product placement deals are now illegal in the UK, but unbranded smoking in music videos is another source of favourable smoking imagery. Content analyses of music videos from the 1990s found smoking in 30% of rap and 22% of rock music videos.[15] One longitudinal study has linked viewing of music video channels like MTV with onset of smoking among adolescents and their friends.[16] So evidence thus far would suggest that closer scrutiny of music videos and also the use of tobacco by musicians on stage is required. Many adolescents watch music videos on the internet through YouTube, so this medium is available both through music television channels and the internet.

Policy solutions

Entertainment media companies have devised ratings systems to protect children from media that could harm them, while avoiding censorship. Given the harms smoking causes to society and compelling evidence that such imagery prompts adolescents to smoke, entertainment ratings should relegate smoking imagery to adult categories, just as they do for sex and violence.

Obvious solutions include:

- an adult rating classification for films, television programmes, and video games to restrict tobacco exposure to children; this is likely to result in widespread elimination of smoking from films and other media content aimed at younger age groups
- use of time slots or watersheds for smoking content on television
- parent education programmes emphasising the importance of preventing exposure to smoking in film and other media, combined with technology that facilitates their ability to restrict viewing of adult venues when children and young adolescents are watching unsupervised.

However, while some internet content exposure may prove extremely difficult to prevent, the pre-eminent role of movies as a source of media exposure to smoking makes this medium a key target for more effective self-regulation and external regulation through the ratings system. ■

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6. Price, affordability and illicit supply

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Raising the price of cigarettes through tax is the most effective strategy to reduce tobacco consumption and smoking prevalence, but this strategy can be undermined by increases in income, which counteract the effect of price on affordability; and by tax avoidance and evasion, which result in lower prices for smokers, and thereby increased tobacco use.

Tax avoidance refers to legal activities to reduce tax, such as purchase and import of tobacco for personal use from lower tax jurisdictions, in accordance with legal customs constraints. Tax evasion encompasses illegal activities to pay less or no tax, for instance the purchase of smuggled and/or illicitly manufactured tobacco products. Illicit trade arises from classic forces of supply and demand: demand from smokers for cheaper tobacco products or for products perceived to be desirable but not available on the domestic market; and supply by legal and illegal tobacco manufacturers looking for higher profits, sales, market share, or penetration of new markets. Illicit trade is facilitated by corruption, the presence of criminal networks and weak government enforcement capacity. Smokers' use of illicit tobacco is related to price and availability, and demand for illicit tobacco products is strongly influenced by prices, typically representing 30% to 50% discounts on legal products.

Tobacco smuggling became a serious problem in the UK about ten years ago. British Customs and Excise estimated that the proportion of illicit cigarettes on the market increased from 3% in 1996–7 to 21% in 2000–1, but fell to 10% in 2009–10. Anti-smuggling measures in the UK included: scanners for container detection; prominent fiscal marks on packs; increased punishment for offenders; more customs officers; and parliamentary hearings, which exposed tobacco industry export practices. The UK strategy to tackle illicit trade was continuously updated, and involved strong cooperation between different agencies using improved intelligence, risk profiling, tasking and coordination, to detect and disrupt the supply of illicit tobacco products. However, at 46% of the hand-rolled tobacco (HRT) market and 10% of the manufactured cigarette market, illicit tobacco represents a significant proportion

of consumed tobacco, particularly since illicit use tends to be concentrated among the relatively poor and disadvantaged.

A recent report by the United Nations Office on Drugs and Crime (UNODC)[1] looks at major trafficking of products such as illicit drugs (cocaine and heroin), firearms, counterfeit products and stolen natural resources. The issues described in this report are similar to those in the illicit tobacco trade. One of the main conclusions of the UNODC report is that, because transnational organised crime markets are global in scale, strategies to address them should also be global. The report outlines principles to combat transnational organised crime, which also apply to tackling the illicit tobacco trade; the global scope and multifaceted nature of the illicit tobacco trade requires a coordinated international response. The illicit tobacco trade protocol set out in the World Health Organization's *Framework Convention on Tobacco Control* (FCTC) is the global response of the global tobacco control community.[2]

Maximising the effectiveness of price in smoking prevention requires further action to prevent illicit trade, reduce tax avoidance, and outpace the effects of income increases. Although cigarette prices in the UK in 2011 were the second highest in the European Union, proportionately greater increases in income over recent decades mean that UK cigarettes are now relatively more affordable than they were in the mid-1960s. It is therefore important to:

- set targets to reduce the illicit market share of cigarettes to 3% by 2015–16 and of HRT to 25% by 2015–16
- reduce the minimum indicative limits for cross-border shopping to 200 cigarettes and 250g of HRT
- increase price ahead of inflation and income
- introduce a minimum excise tax per pack to discourage discount brands
- encourage other EU countries to increase tobacco taxation
- continue to invest in enforcement and coordination between agencies
- enhance market analysis, monitoring, tracing and surveillance
- adopt the FCTC protocol on illicit tobacco trade.

In summary, combating illicit trade remains difficult, but a combination of measures such as international cooperation, legislative measures to control the supply chain and more investment in enforcement and dissuasive penalties can lead to positive results in tackling illicit trade. ■

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7. Tobacco package design and use of health warnings

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Summary

Packaging is an integral component of tobacco marketing. The pack provides a direct link between consumers and manufacturers, and is particularly important for consumer products such as cigarettes, which have a high degree of visibility among both smokers and non-smokers. As a result of the prohibition of most traditional forms of tobacco advertising in the UK over the past decade, the relative importance of packaging has increased substantially.

For the tobacco companies, packaging has three primary functions: to reassure consumers about the potential risks of their products; to increase the appeal of tobacco products, particularly to young people; and to distinguish between 'premium' and discount or 'value' brands. A central feature of the consumer reassurance strategy has been to use misleading brand descriptors, such as the words 'light' and 'mild'. Although these terms have now been prohibited in the UK and more than 30 other countries, the false belief that some brands are less harmful than others persists. These beliefs about the relative risks of products have been associated with descriptors that are not regulated, such as the term 'smooth', as well as colours and brand imagery.

Descriptors, colours and brand imagery on packages also increase the appeal of cigarette products to young people. Packaging allows tobacco companies to target subgroups of smokers, such as the marketing of 'superslims' brands to young women and girls. In 2012, Australia will become the first country to require plain packaging for tobacco products and will prohibit branded colours, logos and other imagery from packs. Packs will display the brand name in a regulated font style and size, printed against a dark olive brown colour. The pack

size and shape will also be standardised, as will the appearance and colour of cigarette sticks themselves. Health warnings and tax stamps will remain on packages as required by the government.

Tobacco packaging has also emerged as an important communication channel for governments. The UK is one of more than 30 countries to have implemented large pictorial health warnings on packages. A number of factors determine the impact of pack health warnings, including: the use of pictures (versus text-only messages); the message theme; the size of warnings; placement on the front, back, top or bottom of packages; as well as the frequency with which warnings are revised or rotated. Countries continue to set new precedents in terms of the size of health warnings, the provision of cessation support on packages, and the pictorial content of health warnings, all of which have the potential to increase the effectiveness of health warnings. The impact of health warnings is also influenced by the degree of branding; for example, health warnings on plain packaging have been shown to increase the health warning recall and reduce the appeal of packages.

Overall, the existing evidence suggests that the effectiveness of packaging and labelling regulations in the UK could be enhanced in three primary ways:

- the implementation of plain or standardised packaging
- increases in the size of health warnings, as well as placement of pictorial warnings on both the front and back of packages
- incorporating more cessation information within health warnings, including more links to existing cessation resources such as telephone helplines, cessation clinics, and other sources of support.

Regulations implemented in other jurisdictions – most notably the plain packaging regulations to be implemented in Australia – can help to inform the development of these policies in the UK and at European Commission level. ■

8. Controlling access to tobacco products as a tobacco control strategy

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Much of the focus of tobacco control over recent decades has been on reducing demand for tobacco products. This is particularly the case for adult smoking, for which interventions – such as mass media campaigns, health warnings, tobacco tax increases, and controls on marketing – aim mainly to create triggers and a supportive environment for smokers to cut down and, ideally, to quit smoking. This contrasts with alcohol (and even more so with illicit drugs, where supply is generally the main intervention focus), where there is also attention to controlling the supply, for example through restricted opening hours and places of sale, and licensing of alcohol retailers.

The major exception in the tobacco control arena is in the area of initiation, as laws to restrict the age of purchase of cigarettes are now the norm. However, reviews of international evidence suggest that these interventions have a modest effect, and even then only if rigorously enforced.[2,3] In England, legislation to raise the legal age of purchase from 16 to 18 years from October 2007 contributed to a substantial fall, by over 20 percentage points, in the proportion of regular smokers aged 11–15 who reported that they usually obtain cigarettes from a shop. However, in 2010 58% still reported shops to be their usual source of cigarettes (see Fig 1 overleaf).[1]

Other indicators, such as reported difficulty in purchasing cigarettes, trying to purchase cigarettes, and refusal of shops to sell cigarettes, also improved after the 2007 English legislation. Still, in 2010 42% of underage smokers who had tried to purchase cigarettes reported that they were always successful, and 89% of regular and 53% of occasional smokers reported that they had asked someone else to buy cigarettes for them (proxy purchase), and this was usually (around 90%) successful. A high proportion of purchases of cigarettes were for packets of 10 (41%).[1] A great deal more needs to be done, therefore, to enforce existing legislation and further reduce availability of cigarettes to young people.

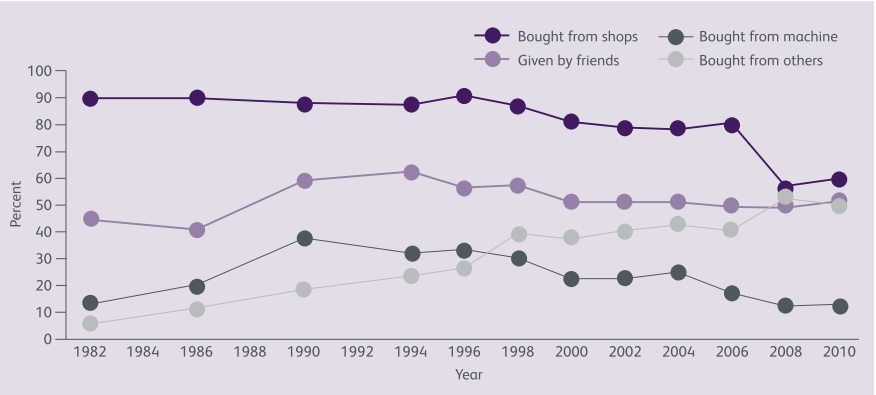

Fig 1 Usual source of cigarettes among 11- to 15-year-old regular smokers: 1982–2010.
Source: Smoking, drinking and drug use among young people in England 2010.

Another intervention in the retail environment in which there is currently considerable interest and policy momentum around the world is the removal of point-of-sale (PoS) tobacco displays. There is increasing evidence from epidemiological, qualitative and experimental studies that PoS displays are highly visible to children, and that exposure to PoS displays is associated with increased susceptibility and initiation of smoking among youth, and undermining quit attempts and prompting impulse purchases among adults. This evidence has been described in a systematic review,[4] and supported by several further studies published since.[5–9] There is also emerging evidence that the removal of PoS displays has positive impacts on smoking-related attitudes and beliefs among children.[10]

The experience with other interventions to control the availability of tobacco products in the retail environment and other potential retail interventions is much more limited, and there is little or no evidence base. Therefore, the current position remains that in most jurisdictions there are no or minimal restrictions on selling tobacco products, despite their highly addictive and toxic nature. As a result, tobacco products are almost universally available in the

Point-of-sale display in a Nottingham convenience shop with prominent tobacco display surrounded by sweets
(Photo courtesy of D Spanopoulos)

most commonly frequented retail environments, within a few minutes' walk or drive for most people to their local corner shop, convenience store, garage or supermarket.[11] However, there are many potential interventions in the retail environment that could have an impact on smoking uptake and perpetuation, which include:

- measures to make proxy purchase and supply illegal, with appropriate enforcement
- a requirement that tobacco retail sales staff are aged 18 or over, with mandatory training in the harms of tobacco and cessation approaches and services
- making tobacco retail environments accessible only to customers aged over 18
- restricting the number/density of outlets in a locality, for example through stipulating a minimum distance between outlets, maximum density, and restricted opening hours
- restricting the proximity of retail outlets to children's facilities in order to reduce children's and youth access; for example, by introducing designated zones around schools which are free of tobacco retailers
- restricting the types of venues or retail environments in which tobacco can be sold; for example, preventing sales at events where more than 20% of those attending are minors or at venues where alcohol is sold
- requiring nicotine replacement therapy and information on local cessation support to be available wherever tobacco products are sold
- further reducing personal duty-free import allowances
- requiring the tobacco industry, importers and distributors and retailers to provide tobacco product sales and imports data, and tobacco industry communications and marketing strategies
- introducing minimum prices and minimum pack sizes.

Many of these interventions would be facilitated and underpinned by the introduction of a mandatory positive licensing scheme for tobacco retailers. A positive licensing scheme is one where retailers have to show that they meet specified criteria, and where licences are removed if criteria are not met. Licensing also offers the advantages of facilitating monitoring of activity and sales in the retail sector, enabling the progressive introduction of restrictions on retail supply, providing the opportunity for community control over the availability of tobacco, and sending a clear signal that tobacco is not a normal consumer product, and that selling tobacco is a privilege, not a right.

There are also bigger-picture interventions to restrict the supply of tobacco at national or regional levels – for example the 'sinking lid' approach to reducing the importation and supply of tobacco products, in which a steady reduction in tobacco product availability is seen over time.[12] This is likely to have most application in jurisdictions which are relatively geographically isolated, and where border controls are strong so that smuggling is not a major issue.

In conclusion, there is an urgent need for policy development, testing and research in this area of tobacco control. Combining interventions to restrict the supply of tobacco products with an intensification of current tobacco control measures to reduce demand, is likely to be a potent strategy to achieve a tobacco-free future for coming generations. ■

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Part 3 Helping smokers who want to quit, and protecting others from smoke and smoking

9. Smoking cessation interventions

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Every year that a smoker continues to smoke beyond his or her mid-thirties results in a 3-month reduction of life expectancy.[1] It is therefore extremely important that smokers stop smoking as early as possible. Unaided cessation attempts have a less than 5% chance of succeeding for a year or more.[2] There is strong evidence from high-quality randomised controlled trials that the chances of success can be improved by behavioural support and several types of pharmacology.[3] Combining the two can improve the chances of long-term success to more than 20%.[3] Since 1999, every smoker in the UK has had access, via the NHS, to free behavioural support and free or nearly-free medication.[4]

Behavioural support can be delivered face-to-face, by telephone or through other means such as the internet and text messaging. This face-to-face support can be delivered to individuals or to groups. Individual face-to-face support forms the large bulk of the support provided in the UK through the NHS.[5] Behavioural support consists of advice, discussion and practical exercises serving two main functions: boosting motivation to remain abstinent, and maximising capacity to avoid and resist urges to smoke.[6] It may do this directly, for example by providing moral support and encouragement or advising on ways of minimising exposure to smoking cues. It may also do it indirectly, by advising on adjunctive activities that help with this, and particularly the use of smoking cessation pharmacotherapy, such as nicotine replacement therapy or varenicline. In addition, it must include activities that support these aims, such as the assessment of past smoking and quitting history, contraindications for medications, and so on. A total of 43 specific 'behaviour change techniques' have been

identified that form part of the individual face-to-face support programmes in treatment manuals of English stop smoking services.[7] A further 14 have been identified in group support.[8] The NHS Centre for Smoking Cessation and Training (NCSCT), established by the Department of Health (DH), offers clear guidance on the structure and content of behavioural support.[5]

Pharmacotherapy serves to reduce urges to smoke by providing partial substitution for the nicotine from cigarettes, and blocking the rewarding effect of nicotine from a cigarette, should a lapse occur.[9] The most commonly used pharmacotherapy is nicotine replacement therapy (NRT),[10] typically and most effectively used in the form of transdermal patches, which deliver nicotine slowly over a period of hours, supplemented by faster-acting products that, depending on the product, deliver peak nicotine concentrations within 10 to 30 minutes.[11] The next most commonly used pharmacotherapeutic formulation is varenicline,[10] which is a partial agonist targeting particular central nervous system nicotinic receptors known to play a central role in urges to smoke.[12] Less common, but also effective, is bupropion, an atypical antidepressant whose effectiveness was discovered by serendipity, and whose mode of action in reducing cigarette cravings is in fact unknown.[13]

Stop smoking services in the UK combine behavioural support and medication. According to annual monitoring data, the English services treated almost 800,000 smokers between April 2010 and March 2011.[14] They have proven themselves capable of reaching all sectors of society, including those on low incomes and with mental health problems.[14,15] Overall, the services have been highly cost-effective, but success rates are extremely variable, and on average somewhat lower than might be expected.[16] One likely reason for this is that services have been incentivised to prioritise throughput over success rates, and this has led to many services offering only minimal support.

The immediate challenge for the stop smoking services is to bring the performance of *all* the services up to the standard achieved by the best of them. This involves ensuring that NHS commissioners require providers to adhere to the clearly defined standards of care[5] and monitor performance using rigorous criteria. The DH has commissioned the NCSCT to develop an audit tool for this purpose.

Even with extensive promotion, it appears that the large majority of smokers do not wish to access face-to-face support. It is likely that access could be increased if more GPs and hospital doctors routinely offered this kind of help to smokers. At present, only a quarter of smokers are offered support by their GP.[17] However, even if this is increased to 50%, the proportion of smokers accessing face-to-face support in a given year is likely to remain below 10%.

Research is underway to determine how the reach of behavioural support can be extended using: web-based support programmes, Skype, SMS text messaging, telephone support and smartphones, all of which show promise. In addition, a recent trial has raised the prospect of reducing medication costs by confirming that the very low-cost cessation medication,

cytisine, is effective.[18] It is also possible that more smokers might be encouraged to stop by encouraging them to use NRT to reduce the amount they smoke as a step along the way.[19] Thus, a realistic vision for the medium term is one in which a majority of smokers try to stop each year, and a majority of these do so through a one-stop shop in which they can select what they want from a menu of services combining low-cost medication with behavioural support delivered using permutations of the following modalities: face-to-face, Skype, SMS, telephone, website and smartphone.

The UK has among the most highly developed smoking cessation programmes in the world, but there is considerable room for improvement both in terms of the quality of care and extending its reach. ■

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10. Reducing harm from nicotine use

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Conventional tobacco control policy aims to prevent uptake of smoking, and to promote cessation among existing smokers. However, even if policies are fully and comprehensively implemented, their impact is – at best – a fall in smoking prevalence of the order of 1% of the population per annum. For the millions of smokers in the UK and elsewhere who prove resistant to these conventional approaches, it is important to identify more immediately effective means to prevent the burden of death and disability that they will otherwise sustain.

Harm reduction is a strategy of great and as yet largely unrealised potential, to complement conventional approaches[1,2,3] by recognising that smokers smoke primarily because they are addicted to nicotine, but sustain harm predominantly from the many other constituents of tobacco smoke. Since nicotine itself is not a highly hazardous drug, encouraging smokers to obtain nicotine from sources that do not involve tobacco combustion is a potential means to reduce the morbidity and mortality they sustain, without the need to overcome their addiction to nicotine. However, while there is now strong interest in the potential of harm reduction in the UK, elsewhere harm reduction remains the 'Cinderella' of tobacco policy, and a divisive subject among tobacco control experts and advocates internationally.

Proof of concept for harm reduction arises from the availability in Sweden of an oral smokeless tobacco product, known as 'snus', that is prohibited elsewhere in the European Union.[4] In Sweden, large numbers of smokers have switched from smoking to using snus, and in combination with a substantial cohort of tobacco users that initiated snus use and have never become regular smokers this means that while around one-third of Swedish men use tobacco, only about 12% are daily smokers. As a result, Sweden has the lowest smoking prevalence, and lowest male lung cancer incidence in Europe. Snus has been proven a viable harm-reduction product because it delivers high doses of nicotine and is as freely available as cigarettes, but also less expensive, as well as being generally socially acceptable. Snus is not a safe product, but its health risks are minimal compared with those of regular smoking.

More recent proof of demand for alternative products is provided by the rapid development of a market for electronic cigarettes,[5] which mostly provide relatively slow and low-dose nicotine absorption, but are also acceptable alternatives for some smokers and are priced competitively in relation to cigarettes.

The main approach under consideration by UK authorities is to advocate the development and use of alternative sources of medicinal nicotine that can be used in a similar way to snus, and thus offer a partial, or ideally complete, substitute for smoking. For many years the only available substitutes have been conventional nicotine replacement therapies (NRT), but these products have, to date, been marketed and used primarily as cessation treatments. They are also more expensive, much less freely available, less attractively packaged and presented, and deliver nicotine much less quickly than cigarettes. Harm reduction products should ideally be effective nicotine delivery devices that are less expensive than cigarettes, available in newsagents and other retail outlets in the same way as cigarettes currently are, and supported by purity and safety standards that protect the smoker without stifling product innovation and development.

Concerns include reservations among some health professionals that harm reduction products, even if much less hazardous than smoking, are not free from risk. It is thought that they are likely to be addictive, and might be abused or act as a gateway into regular smoking; and that harm reduction messages might dilute the imperative to stop all nicotine use and smoking as quickly as possible. There are also concerns that tobacco companies, who are likely to enter the harm-reduction market, have a despicable record for honesty and product safety, and are therefore likely to abuse any freedom to promote alternative nicotine products. However, with the right scientific data, appropriate regulation and careful market monitoring, these concerns are all potentially resolvable.

The UK's Medicines and Healthcare products Regulatory Agency (MHRA) signalled a new approach to NRT regulation in 2005 when it recognised the relative safety of NRT compared with smoking. It enabled NRT products to be used, *inter alia*, alongside a reduction in cigarette consumption as a first step towards quitting, for adolescents and for patients with stable coronary heart disease.[6] More recent changes have licensed NRT for temporary abstinence, and for maintenance of nicotine use in place of smoking. However, studies using data around GP prescriptions have demonstrated that the 2005 changes to NRT indications did not change prescribing patterns.[7] This suggests that health professionals were either not made aware of the changes, or did not feel it was appropriate to alter their prescribing behaviour. Clearly more education and training is needed for health professionals if NRT is to be utilised in this way. On the other hand, concerns that dilution of abrupt cessation messages might affect quit rates have not been borne out in practice, since it transpires that the majority of smokers engage in some harm-reducing behaviours, although many are currently doing so in an unstructured and unsupported manner.[8]

Thus it appears that alternative nicotine products are of interest to smokers, but that smokers are currently being given very little guidance and support in how best to use these products to stop smoking, or to sustain nicotine use without smoking. There are two notable recent developments which should address this. The National Institute of Clinical Excellence has convened a programme development group to provide guidance to the NHS on harm-reduction approaches for smoking cessation. The MHRA, following a recent consultation, is carrying out a programme of research and information-gathering on the levels of nicotine which have a significant pharmacological effect, the actual use of existing nicotine products in the marketplace, their effect on smoking cessation, and modelling the potential impact of bringing such products into medicines regulation on public health outcomes and on business. Both of these processes are due to report in 2013.

However, despite the controversy, harm reduction offers a potentially important alternative approach in tobacco control that should be explored and exploited rather than dismissed.[9,10] For harm-reduction strategies to succeed and become mainstream, we need to see a radical change in policy from government and regulators, that will: encourage innovation in alternative nicotine products; regulate them permissively to guarantee purity and acceptable safety standards without stifling innovation; impose more proportionate regulation and controls on smoked tobacco products to further discourage their continued use; inform health professionals and the public about this new strategy; and monitor performance and effectiveness when in place. Much research is needed to realise these objectives, but harm reduction is an approach of such potential that this is now an imperative in UK public health.

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11. Passive smoking and smoke-free policy

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Second-hand smoke (SHS) is made up of the smoke emitted from the burning end of a cigarette or other tobacco product, in combination with smoke exhaled by the smoker. It contains a number of toxins and is carcinogenic to humans.[1] Evidence from a range of studies accumulated over many years has shown that exposure to SHS causes death, disease and disability in adults and children,[2,3] and that exposure to smoking behaviour is also a driver of uptake of smoking among young people. Policies to make public places and workplaces smoke-free protect workers and the general public from the harmful effects of SHS, but also influence smoking behaviour and change social smoking norms.

Smoke-free legislation is therefore an important component of international efforts to reduce the burden of disease attributable to tobacco use, and all parts of the UK now have comprehensive legislation prohibiting smoking in enclosed public places and workplaces. Scotland was the first country in the UK to introduce a smoke-free law, from March 2006. Smoke-free legislation was then implemented in the remainder of the UK: in Wales and Northern Ireland in April 2007, and in England in July 2007.

A significant body of evidence now exists that demonstrates that smoke-free laws have an impact on health. There is considerable consistency in this evidence, and two recent systematic reviews outline findings from studies from a range of countries.[4,5] Here, we focus on key findings from UK studies, beginning with a summary of how smoke-free legislation affects SHS exposure in key groups.

In adults, previous studies have shown that bar workers have among the highest occupational exposure to SHS of any group of employees, and that smoke-free legislation can reduce exposure in this group. For example, a study of bar workers in England showed that their exposure reduced on average between 73% and 91%, and measures of their

respiratory health significantly improved, after the introduction of the legislation.[6,7] Children are particularly vulnerable to the effects of SHS, and research in Scotland, England and Wales examined changes in children's exposure before and after the introduction of smoke-free legislation.[8,9] In England, for example, a study found that, between 1996 and 2007, SHS exposure among children declined by nearly 70%.[10] The reductions were greatest in the period immediately before the introduction of the legislation, coinciding with national mass media campaigns around the dangers of SHS. Subsequent research examined the impact on the most exposed children – those with levels of cotinine in their saliva of more than 1.7ng/ml. The number of children with exposure over this level fell consistently between 1996 and 2008, and there was no evidence of displacement of smoking to the home.[11] Other studies, including qualitative research in Scotland, also found no evidence that the introduction of smoke-free legislation resulted in smoking shifting from public places to the home, and instead found an increase in the number of homes with smoking restrictions.[8,12]

SHS can have a particularly damaging effect on cardiovascular health, and studies have shown that smoke-free laws can reduce hospital admissions for heart attacks. In England, the legislation resulted in a statistically significant reduction (–2.4%) in the number of hospital admissions for myocardial infarctions (MIs). This amounted to 1,200 emergency admissions for MIs in the year following the introduction of smoke-free legislation.[13] Research in England also identified changes in smoking behaviour after the legislation. A study looking at the impact of the law in particular communities found a general pattern of smokers cutting down their tobacco consumption in all locations where the study took place.[14] Another study found a statistically significant increase in the number of people making a quit attempt at the time of the legislation.[15] However, a recent review of studies from 21 countries, states and provinces examining the relationship between smoking cessation and smoke-free legislation concluded that the introduction of such legislation has increased the rate at which smoking prevalence was declining in some locations, but in the majority of jurisdictions had no measurable impact on existing trends in smoking prevalence.[16]

Despite the positive impact of smoke-free legislation in the UK and further afield, most of the world's population lives in countries that have not yet implemented any smoke-free laws. There is, therefore, considerably more work to be done at the international level. In addition, there is scope in the UK to extend protection from SHS beyond what is currently in place. A number of workplaces are currently exempt from the legislation – such as prisons and (in Scotland) psychiatric hospitals – and future policy needs to focus on extending the protection offered by the legislation to employees and the public in these locations. Active consideration should also be given at local and national levels to extending smoke-free environments to outside areas such as, for example, bar and restaurant patios and public parks and beaches. A number of US states and Canadian provinces have successfully extended smoke-free policies to include these areas. Finally, significant proportions of children in the UK remain

highly exposed to SHS (the 34% of children who live with a parent who smokes, and the 49% of children who live in a home that allows smoking inside on most days) and considerably more could be done to protect these children.[11] This includes, for example, a ban on smoking in cars, recently proposed by the RCP and under consideration in some parts of the UK.[3] Further efforts to promote smoke-free homes through mass media campaigns and local initiatives linked to adult smoking cessation are also required. Unlike most adults, children have little control over whether they are exposed in private spaces such as the car and home, and more could be done to protect them from SHS. ■

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12. Using mass media to reduce tobacco use

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Mass media campaigns to promote quitting are important investments as part of comprehensive tobacco control programmes to: educate about the harms of smoking; set the agenda for discussion among community members and policy-makers; change smoking beliefs and attitudes; increase quitting intentions and quit attempts; and reduce youth and adult smoking prevalence.[1] The results of a forthcoming review of mass media campaigns to influence adult smoking behaviour concludes that there has been a further strengthening of the evidence that mass media campaigns conducted in the context of comprehensive tobacco control programmes promote quitting and reduce adult smoking prevalence, but that campaign reach, intensity, duration, and message type may all influence success.[2] Achievement of sufficient population exposure is vital, both in terms of campaign intensity and duration, with television remaining the primary channel to reach and influence adult smokers effectively.

Campaigns require ongoing investment to sustain a level of at least 1,200 gross ratings points (GRPs)* per quarter, for a total of 4,800 GRPs per year, although greater investments would be expected to yield proportionally larger returns.[2] Higher mass media campaign exposure also appears to confer greater benefit on socioeconomically disadvantaged population subgroups. Studies also suggest that around 300 teenage GRPs per quarter may be the minimum for detecting effects on smoking uptake among youth, with effects increasing linearly until potentially beginning to diminish above 1,250 GRPs per quarter. For both youth and adults, media campaigns require ongoing investment and refreshment rather than an occasional stop–start approach, since effects decay quite rapidly once they are withdrawn.[3]

Radio and ambient media are best used as adjuncts to televised campaigns, rather than

* See overleaf.

* Televised gross rating points (GRPs) are an advertising industry measure of the reach and frequency of messages in populations. 400 GRPs per month means that 100% of television viewers in a media market view an average of four ads over the course of a month, or that 50% of viewers in media market view eight ads on average.

as primary message dissemination channels. Our changing media environment poses challenges to achieving adequate exposure to planned messages. As more media channels emerge, the clutter of competing messages increases, and consumers gain greater control over the messages to which they allow themselves to be exposed. Most newer digital technologies require people to 'opt in' to advertising, by deliberately clicking on, opening or downloading an application. As this exposure is chosen and not incidental, the population reach of this advertising is more limited than traditional free-to-air forms of advertising. Online advertising is primarily a helpful adjunct to other advertising channels for recruiting smokers into online cessation programmes, although when used in isolation it may in itself attract a relatively small subgroup of smokers already motivated to quit.

Studies comparing different media message types have found messages concerning negative health effects most effective at generating increased knowledge, beliefs, higher perceived effectiveness ratings, or quitting behaviour. Evidence for other message types is more mixed.[2] Many messages concerning negative health effects feature graphic imagery and/or testimonial stories, and elicit negative emotional responses. In general, these kinds of messages may be especially beneficial for low and mid socioeconomic populations,[4] though there is no consistent evidence that they perform differently in various adult age and gender groups. They do, however, perform very well among young people, probably because they activate emotional responses, including: empathy for those who suffer health harms of tobacco, disgust towards smoking, and anger towards the tobacco industry. In contrast, ads dealing with the cosmetic effects of smoking, addiction and athletic performance, have been found to be less effective. Also, messages from youth smoking prevention campaigns run by tobacco companies are poorly appraised by youth, and have either no or adverse effects on youth smoking intentions or behaviour.[5]

Although funders often baulk at the up-front costs of campaign investment, mass media campaigns have a low cost per capita because of their potential for very high population reach. Several strategies can improve mass media efficiency and optimise effects. Buying media to ensure the bulk of smokers in the population can be exposed is critical, while specific targeting of small population subgroups using a mass-reach strategy is much less efficient. Choosing negative messages concerning health effects, that feature graphic imagery or testimonial messages, may maximise efficiency, although even campaigns with the highest-impact messages cannot be effective unless they reach a sufficient percentage of the population over time. Adapting and recycling messages already used successfully in

other jurisdictions can avoid the substantial costs of campaign development, as long as these messages pre-test well locally.[6] Finally, mass media campaigns can perform optimally when there is less competition from tobacco marketing, such as price discounting and promotion of attractive tobacco imagery. Implementing comprehensive restrictions on tobacco marketing will enhance the context for mass media campaign effectiveness. Consideration should also be given to harnessing the potential synergies between media campaigns and other tobacco control policies, such as pack health warnings, tobacco price increases and smoke-free laws.[7]

News media can also exert influence on tobacco use. In general, it is known that news media serve as an important source of health information for the general public, and widespread news coverage of celebrity illness can lead to marked changes in population health behaviours. Since policy-makers pay particular attention to news coverage, especially front-page news and editorial items, this form of media also has the potential to influence tobacco policy development. In fact, tobacco control researchers have pointed to news coverage as being one of the key drivers of the declining secular trend for tobacco use in high-income countries in periods of limited policy and programme action. News coverage includes new research results from scientific studies, as well as news items, editorials and other commentary from experts, community organisations, industry sources and the public on tobacco policies and programmes. The degree and nature of coverage can be shaped by public relations efforts of tobacco companies, as well as public health agencies and tobacco control advocates, who may generate newsworthy data, reports and events, and/or who may be approached for comment on particular issues.

There is a small but growing body of population-based studies suggesting that greater tobacco-related news coverage reduces youth and adult smoking. This occurs not only through direct provision of new information to news media consumers, but also because news media sets the agenda for discussion within families, work and other social groups, and such discussion can lead to changes in social norms for tobacco use. In addition, news coverage can influence the passage of tobacco policies. For example, a Canadian study found that the number of newspaper articles on second-hand smoke each year was independently related to an increased rate of passage of local laws banning smoking in restaurants. Use of news media advocacy is a relatively efficient way to further extend the reach and complement the messages of paid mass media campaigns in tobacco control.

In summary, a good media strategy:

- needs to achieve sufficient population exposure, with a minimum average of 1,200 GRPs per quarter (average of 4,800 GRPs per year), with greater effects at higher exposure levels
- should be television-driven, since this ensures the highest population reach, but can be supplemented by other media channels such as radio, print and ambient media

- needs messages which are varied but sustained, with a preference towards hard-hitting messages that evoke negative emotional responses, most often those about the serious health effects of smoking, presented using graphic imagery and/or testimonial-based approaches
- considers that higher campaign reach and use of negative health effects messages are especially beneficial for more disadvantaged smokers
- is cost-effective; efficiency can be further increased by: aiming at the general population of smokers rather than small subgroups; using more effective messages; recycling successful messages already used in other countries; broadcasting them to coincide with implementation of other tobacco control policies, and using unpaid news media to extend message reach. ■

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Part 4 Smoking and health: industry and practice

13. The role of the tobacco industry

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Tobacco use has been described as an 'industrial epidemic', conceptualised using a traditional epidemiological framework comprising agent (tobacco), host (consumer), vector (tobacco industry) and environment (socio-cultural, political and legal systems).[1] According to this model, the development of effective tobacco control policy can be informed by a detailed 'vector analysis' of tobacco company strategies, and of the political and social environment in which these companies not only operate, but also work to shape. Such analyses have been facilitated through the public release in the 1990s of around 70 million pages of internal documents, as a result of litigation in the USA. These documents, and others previously released by whistleblowers, have stimulated a whole new area of research, which has contributed to the development of effective public policy responses to the global tobacco epidemic.[2] The existence of such research may also help to explain why tobacco control has made greater progress than other contemporary public health issues involving corporate 'vectors', such as alcohol misuse and obesity.[3]

Historically, tobacco companies enjoyed considerable influence over public policy-making, and the result in many countries, including the UK, was a largely self-regulatory approach to tobacco control.[4,5] By the late 1990s, however, the tobacco industry's status as a political insider had begun to weaken, paving the way for an increase in statutory regulation in the UK[5] and globally.[6] Research of tobacco-related documents played a key part in this process. The UK, for example, saw the 1999 House of Commons Health Committee enquiry into the tobacco industry and the 2000 Department of Trade and Industry investigation into British American Tobacco's involvement in cigarette smuggling. Both were precipitated, at least in part, by the availability of industry documents, and both deepened distrust of the industry

among political actors, which, alongside broader revelations of the industry's unethical conduct, significantly changed the policy environment.[5] Among other things, tobacco document research* has revealed that the industry:

- understood – but publicly denied and deliberately sought to undermine – evidence on the carcinogenic nature of its product since at least the 1950s, and its addictive nature since the 1960s
- sought to undermine the scientific debate on the health effects of second-hand smoke
- aggressively defended the freedom to market a product that had been chemically altered to increase its addictiveness
- promoted 'low-tar' cigarettes to offer false reassurance without health benefits, in order to prevent smokers from quitting
- covertly funded and influenced scientific research across a wide spectrum of issues.[7–10]

Its extensive efforts to influence policy include: creating confusion over the impact of tobacco control measures; creating, funding and using credible front groups to lobby on its behalf; encouraging voluntary measures because they are ineffective and help to preclude the implementation of effective, binding measures.[10–15] In the words of Philip Morris's senior vice president of worldwide regulatory affairs:

> Our overall approach to the issues is to fight aggressively with all available resources, against any attempt from any quarter, to diminish our ability to manufacture our products ... and market them effectively.(cited in 10)

The impact of tobacco document research is specifically reflected in the development of Article 5.3 of the World Health Organization's *Framework Convention on Tobacco Control* (FCTC), its first international public health treaty.[16] This article, arguably the most unique feature of the FCTC, specifically seeks to prevent the inappropriate influence of the tobacco industry on policy, stating: 'in setting and implementing their public health policies … Parties shall act to protect these policies from commercial and other vested interests of the tobacco industry.'[16]

But it is becoming increasingly clear that successful implementation of Article 5.3 is extremely challenging.[17] The example of some countries, such as the UK, which have now implemented the core policies advocated by WHO yet still have substantial tobacco

* University of California, San Francisco Library. Tobacco documents bibliography. www.library.ucsf.edu/tobacco/docsbiblio

epidemics, also indicates that minimising tobacco use solely via conventional tobacco control measures will be difficult. One key explanation for these problems is that the tobacco industry continuously adapts to its changing circumstances, in both structure and function. In structure, the industry has undergone considerable consolidation in recent years, to the extent that the global tobacco market (outside China) is now dominated by just four transnational tobacco companies,[18] two of which – British American Tobacco and Imperial Tobacco – are registered in the UK. The resulting lack of competition has increased the industry's pricing power, ensuring that prices (and thus profits) increase more quickly than volumes fall.[18] This has made the manufacture of tobacco products uncommonly profitable, explains why marked increases in profits are seen even in markets experiencing major volume declines, and requires us to explore the extent to which an industry pricing strategy can undermine tobacco tax policy.[18,19] In terms of function, the industry has responded to its declining legitimacy by using corporate social responsibility as a new political strategy,[5] and to growing marketing restrictions by being continuously innovative in its marketing methods,[19,20] innovations which underpin the call for plain packaging legislation. Furthermore, recent research reveals that the tobacco industry's influence over policy extends way beyond tobacco control as, working alongside other corporations – many of whose products are also potentially damaging to health – it seeks to reshape policy-making processes to systematically privilege its own interests.[15]

These developments collectively highlight how a more extensive, sophisticated and continuously updated understanding of the tobacco industry can inform policy development. The tobacco industry's efforts to influence stakeholders generate diverse, contemporary documentation, including company annual reports, investor relations materials and press releases, financial analyst reports, press coverage and market research reports and data. Analyses of these materials provide opportunities both for methodological innovation in our efforts to understand the tobacco industry and, given that such materials are available in other industries, in emerging efforts to understand other commercial actors in public health.[19] ■

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14. Policy at the front line: the local, sub-national and national divide

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Over the past half century, the UK has achieved dramatic reductions in smoking prevalence in all but the poorest communities, but there is still a long way to go in tackling what remains the leading behavioural cause of inequalities in health and life expectancy. The coalition government's 2011 *Healthy lives, healthy people: a tobacco control plan for England* aims to improve the health of the poorest fastest, by prioritising smoking. It outlines proposals for action at national level and to support local opportunities created through a new public health infrastructure.[1] Central to the government's focus is a shift towards personal responsibility for behaviour, and an emphasis on local rather than national strategies to promote behaviour change. This new approach to public health delivery in England 'means that local areas will decide on their own priorities and ways of improving health in their communities, in line with the evidence base and local circumstances'.[1]

The tobacco control plan for England adopts the six key strands of prevention policy laid down in the World Health Organization (WHO) *Framework Convention on Tobacco Control*[2] and acknowledges the synergy between these components. The plan includes commitments to some national population-level strategies, such as a three-year marketing strategy, maintaining high tobacco prices and prohibiting retail point of sale displays, and a consultation on plain packaging of tobacco products. It is vital that these commitments are met, others identified, and that, nationally, a focus on tobacco remains a central tenet of the government's overall philosophy for addressing health inequalities. The principle of subsidiarity outlined in the plan makes it clear, however, that national action on tobacco will be limited in favour of more locally orientated action based on priorities determined through

the joint strategic needs assessments of local health and well being boards. This localism agenda arguably creates both opportunities and risks for tobacco control, as for wider public health.

Some of the opportunities arise from utilising the substantial power, experience and influence that local government can yield in putting health and wellbeing at the heart of policy, and ensuring that tackling tobacco is a key, cross-cutting priority. There are areas of tobacco control in which the role of localities will be crucial, for example in the effective implementation of national policy such as ensuring compliance with tobacco regulation, and in the delivery of high-quality smoking cessation support tailored to local population needs. Opportunities for engaging local communities themselves in the development and delivery of initiatives to tackle tobacco harm, such as smoke-free initiatives, can also be utilised as an effective component of a wider programme.

However, one of the core risks of the more local approach is that localities could work in isolation, with duplication of effort, fragmentation of resources, under-prioritisation of tobacco issues or, ultimately, low population reach. For example, measures that affect all smokers, such as taxation, are more appropriately applied nationally than locally, and others, like high-quality media campaigns and work to reduce illicit tobacco supply, are more effectively delivered at the sub-national level. There is also a risk of undue political interference in the local authority decision-making process. It is important for localities to work together and share best practice and key learning, to reduce any risk of 'silo' working, and also to ensure that the public receive consistent, evidence-based messages, wherever they live, work, or take their recreation. The need for a continued strong national steer to local government around tobacco issues will therefore be vital, and there is a real opportunity if localities work together to ensure that there is a bridge between local and national policy.

Evidence from other jurisdictions that have significantly reduced prevalence in recent years, such as Australia, Canada and the USA, has demonstrated that the 'bridge' provided by an 'intermediate tier' of comprehensive tobacco control delivery between national and local levels adds value, and can substantially enhance and amplify efforts and outcomes nationally and locally. Investment at this sub-national level can ensure that national policies and evidence-based practice are implemented effectively, and allows local commissioners to benefit from economies of scale, and to reach much greater population numbers. It is therefore welcome that the tobacco control plan states that 'In the future, local areas may wish to commission and deliver tobacco control initiatives over larger geographical areas, in order to achieve greater levels of effectiveness and efficiencies'.[1]

An example of the opportunities that sub-national initiatives can achieve – where localities collectively commission and work together – is provided by the pilot North of England programme, the first of its kind, designed to reduce both demand for and supply of illicit tobacco. This health-led programme, delivered in conjunction with customs, police

and trading standards across the North of England, has improved partnership working, delivered effective marketing and communications, enhanced enforcement, and increased and improved intelligence. A recently published independent evaluation of the programme concluded that significant benefits were realised from this sub-national approach, especially in relation to: the number of organisations now committed to tackling illicit tobacco, increased trading standards enforcement, reduced size of the illicit market, and fewer individuals believing that illegal tobacco supply is a victimless crime.[3] Local initiatives, as part of a comprehensive sub-national programme, also provide an opportunity to curb rapidly increasing healthcare costs in the short and longer terms. Economic modelling undertaken by the Health Economics Research Group at Brunel University, on behalf of the three English sub-national tobacco programmes, shows that local NHS cost benefits from tobacco control are achieved, even within a two-year period, and that the presence of a cost-effective sub-national programme supports and adds value to local delivery by contributing to a significant uplift in population-level quitting, as well as a reduction in youth smoking uptake.[4]

In summary, it is clear that effective tobacco control policy in the future will continue to require delivery at all levels: local, sub-national, and national. This will ensure that all communities and smokers are reached, and that efficiencies are achieved and opportunities to share the most effective practice harnessed. There is no doubt that local action is effective as part of a coordinated and comprehensive multi-tier strategy across the UK, but these approaches need to be complementary. If we are to achieve our vision of 'making smoking history for our children', we need strong investment, leadership and delivery across every level of the system.

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15. Summary and conclusions: smoking and health in the next fifty years

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In the fifty years since the Royal College of Physicians (RCP) published *Smoking and health* in March 1962,[1] the place of tobacco in UK society has changed beyond recognition. Smoking prevalence has halved, and the epidemic of deaths caused by smoking, which lags about 20 years behind smoking prevalence, is now also in decline. With the UK having been a world leader in the production, promotion and consumption of cigarettes throughout much of 20th century, the publication of the government White Paper *Smoking kills*[2] in 1998 heralded the emergence of the UK as a new world leader in smoking prevention.[3] Yet smoking is still the largest avoidable cause of premature death and disability in the UK, where there are still around 10 million smokers, of whom half will die prematurely as a result of their smoking, unless they quit. Smoking prevention has been most successful among the more skilled, educated and affluent socioeconomic groups, with the result that smoking is now also the largest avoidable cause of social health inequalities in the UK. Smoking also remains a massive drain on economic resources, costing the NHS alone around £5 billion,[4] and wider society an estimated £14 billion.[5] There is still a great deal to do.

One of the special characteristics of the 1962 RCP report was that, as well as describing the health impacts of smoking, it advocated policies to prevent them. Based on common sense rather than scientific evidence – of which little was available at the time – these policies have proved to be the foundations of modern, internationally accepted and now evidence-based tobacco control strategy.[6] Not all were successful or effective, but most were, and still are. Preventing smoking now, as in 1962, depends on: reducing the affordability of cigarettes; using the media to educate and promote health; making non-smoking the norm in public places and workplaces and, ideally, anywhere in the presence of non-smokers; preventing advertising and promotion; preventing supply to children; and providing effective support to individuals who want to quit. Comprehensive application of all of these measures maximises

the synergy between population measures to stimulate behaviour change, and individual measures to support them. However, it is population strategies that have the greatest impact.[7]

Despite the progress of the last 50 years, and the renewed offensive against smoking since the publication of *Smoking kills*, there is much more than can and must be done to rid society of the harm caused by smoking. For example, although now heavily taxed, cigarettes are more affordable in the UK now than they were in 1965, and real prices are undercut further by discounting, small pack sizes, hand-rolling tobacco, and illicit trade. Most conventional means of advertising and promotion of tobacco have now been prohibited in the UK, but the industry continues to benefit from widely prevalent portrayals of smoking behaviour and brand imagery in the media, which could easily be prevented. Although the exploitation of point-of-sale displays to communicate with existing and potential new customers is now set to end in the UK, the use of tobacco packaging to promote brands and mislead on health risks remains unchecked. Smoke-free policies are highly popular and attract near-universal compliance, but could be extended substantially into more areas of everyday life. Media campaigns need to be sustained, varied, innovative, and delivered through national and local media. Tighter restrictions on the retail availability of cigarettes would help smokers who want to quit, while children need protection from all sources of supply, not just sale. Children also need more effective protection against exposure to smoke in the home and other private areas, and to the role-modelling effect of adult smoking behaviour. Local cessation services could improve by assimilating the practices and approaches of the most successful, while also adapting to the special needs of different sectors of the population, including those who do not routinely access conventional health services. Health professionals must reform their practice to integrate and deliver cessation services as a routine and systematic component of the care they provide, especially in areas such as mental health, in which the smoking culture is still strong. The accelerated decline in smoking prevalence achieved by *Smoking kills* has stalled in recent years, with prevalence now stuck at 21%.[8] It is therefore now time to take policy forward again, with new initiatives to regain the momentum for change, and particularly in those groups that have to date benefitted least.

It is also important to exploit the potential of harm reduction. Although contentious for many reasons, the widespread use of snus as a smoking substitute in Sweden demonstrates the principle that if effective and acceptable alternatives to smoking are freely available, many smokers will use them to personal and public health benefit.[9] Although supply of snus is – and for the foreseeable future is likely to remain – illegal under European Union law, liberalising changes to nicotine regulation (currently under review by the Medicines and Healthcare products Regulatory Agency) could help to create a new dimension in tobacco control. The market could be opened to a new generation of innovative nicotine products that will provide smokers with an opportunity to choose an effective low-hazard alternative that is

attractive and competitive with cigarettes at the point of sale. The RCP has campaigned hard, with many others, to catalyse this development,[10, 11] which has the potential to save thousands of lives every year, and in which the UK now has the opportunity again to lead the world.

Perhaps the most important lesson of the last fifty years, though it may seem obvious, is that success in tackling the smoking epidemic depends not just on identifying effective measures, but also putting them into practice. The marked reduction in smoking prevalence achieved by *Smoking kills* reflects the impact of several predominantly population-level policies, most of them contentious at the time, and all of which have been widely accepted by a public that does not need to be persuaded that preventing smoking makes sense. These successes were achieved by political leadership that combined a pragmatic willingness to apply measures that are likely to work in the public interest, with the strength to face down commercial and other special interests that oppose them. These are lessons that are equally important, as society attempts to address other major modern challenges to health, such as alcohol abuse and obesity. But although tobacco is now, as fifty years ago, the largest threat to public health in the UK, the difference is that we know what must be done to eradicate smoking from society. There is no alternative but to get on and do it. ■

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