Linda Bauld – testimony to PDG 13th October 2010

Lessons from Tobacco Control

This paper describes progress made in reducing smoking rates in England over the past 50 years and outlines potential lessons from tobacco control that can be applied to other areas of public health, including efforts to prevent obesity. The paper begins by describing changes in smoking prevalence and summarising the impact of smoking on health. It then outlines the main developments in tobacco control policy between the 1960s and the present day and reflects on the key components of these developments. The contribution of research is then considered and the evidence-base for tobacco control interventions briefly outlined, with a particular focus on smoking cessation and smokefree legislation. In conclusion, a current example of a whole systems approach to addressing smoking is provided.

Smoking and Health

Smoking rates in England have dropped significantly since the early 1960s when 70% of men and 47% of women smoked[1]. Prevalence is now 22% amongst men and 20% amongst women. Steady reductions in smoking rates were achieved between 1998 and 2008 in particular when a comprehensive package of tobacco control policies was in place in the UK. During that period adult smoking rates fell by a quarter and those in young people (11-15 year olds) by half[2,3]. However, there are still nearly 9 million smokers in England today[3]. Smoking is not evenly distributed amongst the population – it is concentrated in more deprived areas and those from routine and manual groups make up more than half of all smokers. Prevalence amongst those in the lowest fifth of the household income distribution averages 29%, compared with 15% amongst those in the highest income quintile[3]. Smoking commonly starts in childhood with the vast majority of smokers starting before they are legally old enough to smoke[4].

Smoking is the leading cause of preventable death in England. More than 80,000 people die each year from active smoking and up to 10,000 from the effects of second hand smoke[5,6]. There are more deaths from smoking in England than the next six most common causes of preventable deaths combined (alcohol misuse, drug misuse, preventable diabetes, suicide, road accidents and other accidents and falls)[7]. Smoking is also the leading cause of inequalities in health – it is responsible for at least half of the excess risk of death in middle age amongst men in unskilled occupations compared with those in professional groups[8]. The gap in life expectancy attributable to smoking has recently been illustrated by 28 year follow up results from a prospective study of the survival of men and women in Paisley and Renfrew in Scotland[9]. This study found that the least affluent non smokers (those in the study

who had never smoked) were much more likely to have survived than even the most affluent smokers. The authors concluded that even if the socio-economic circumstances of less affluent smokers were to significantly improve, their health gain would be very limited if they continued to smoke[9].

Smoking causes a range of diseases and is a risk factor in six of the eight leading causes of death globally. It is the largest preventable cause of cancer with one in four of all cancers attributable to smoking, including 90% of lung cancers and 73% of deaths from upper respiratory cancer[10,11]. Recent studies of cancer genes have found that cigarette smoke causes DNA mutations that lead to lung cancer[12]. Smoking also causes around one in five cases of cardiovascular disease and a range of respiratory diseases including 86% of chronic obstructive lung disease[10]. One half of smokers will eventually be killed by their addiction and lose 10 years of life on average[13].

However, stopping smoking can significantly reduce the risk of smoking-related disease – for example, the millennium women's study has found that the risk of heart disease following stopping smoking can fall to the level of someone who has never smoked through time[14]. Quitting can also significantly improve healthcare outcomes even amongst those with pre-existing smoking-related diseases. The health impact of smoking also includes the harmful effects of second hand smoke, particularly on children. Secondhand smoke exposure is clearly linked to a range of respiratory diseases and heart disease and is the leading cause of cot death[15].

Tobacco use is one of the main sources of demand for the National Health Service. The most recent estimates suggest that treating smokers costs the NHS more than £2.7 billion per year[16]. However it is not just the NHS that bears the costs of smoking. Recent estimates have assessed the impact of smoking on society including worker productivity, absenteeism, loss of productive output, costs of passive smoking, environmental costs and fire costs. This places the societal cost at £13.74 billion per year, whereas smoking contributes £10 billion to the Exchequer through revenue from tobacco taxation[17].

Tobacco Control Policy

Although evidence on the health effects of smoking began accumulating over 200 years ago, it was not until the 1950s that any real attention was paid to this evidence. In 1950 five case control studies were published illustrating the link between lung cancer and smoking, including Doll and Bradford Hill's study. It took a further decade before the role of government in addressing smoking was acknowledged and a policy framework was proposed. In the UK, this framework was set out in the 1962 Royal College of Physician's report on Smoking and Health[1]. This report set out recommendations for policy in six areas: the provision of public education on harm from smoking; restrictions on sales of tobacco to

children; restrictions on advertising; restrictions on smoking in public places; increasing tobacco taxation; providing information on cigarette packs about tar and nicotine content; and investigating the value of 'anti-smoking clinics'[1]. However, it would be almost half a decade later until all these measures were in place in the UK. Progress was achieved slowly.

In 1965, television advertising of tobacco products was banned and in 1971 the first health warnings appeared on cigarette packs, followed by tar and nicotine yields in 1973. Also in the 1970s tobacco taxes were raised above inflation. However, during the 1980s and early to mid 1990s relatively little policy progress took place. Instead, advocacy efforts escalated, led by Action on Smoking and Health (ASH) the tobacco control strategy established by the RCP in 1971. International tobacco control efforts also increased during this period and World No Tobacco Day was launched by the WHO in 1988. In 1993, Doll and Peto published results from the British Doctor's study that showed the extent of premature death due to smoking, with one in two smokers dying from smoking-related diseases[13]. This and other evidence persuaded the incoming New Labour government in 1997 to begin developing a package of policies that were outlined in the 1998 White Paper, *Smoking Kills*[18]. The policies in combination represented a comprehensive approach to tobacco control and included:

- An advertising ban (introduced in stages from 2002 to 2005)
- Tax increases (above the rate of inflation to 2001)
- Action on smuggling (increased from 2000)
- Mass media campaigns
- Enforcement of underage sales
- Better access to stop smoking medications
- The establishment of NHS stop smoking services

The policies set out in *Smoking Kills* did not include smokefree legislation but this was eventually introduced in England in 2007 following Scotland, Wales and Northern Ireland. Thus by 2007 all of the policies originally recommended in the RCP report were in place. Further progress, including the introduction of visual health warnings on packs (2008), raising the age of sale from 16 to 18 (2007) and the commitment to a point of sale display and vending machine ban (2009, not yet implemented) was made more recently.

What factors explain this progress, particularly in the past 10-15 years? Key ingredients include[19]:

- A sound scientific evidence base
- Authoritative reports from key organisations setting out action needed
- A central point to lead advocacy and campaigning
- Coalition building
- Public support for policies and interventions
- Political support for policies and interventions

The evidence for tobacco control began with studies on the impact of smoking but now includes a considerable body of research setting the rationale for, and impact of particular policies and interventions. This evidence has been invaluable in persuading planners and policy-makers to invest in tobacco control measures. Key organisations such as the RCP

and the British Medical Association (BMA) have used this evidence to produce authoritative reports that have made the case for policies and interventions, underpinned by international developments such as the implementation of the World Health Organisation Framework Convention on Tobacco Control (FCTC) from 2005. The existence of ASH as a central point for advocacy and campaigning has also been crucial, and ASH has been able to act as a focus for coalition building. The Smokefree Action Coalition, for example (with its roots in earlier coalitions, this partnership was formed to advocate for smokefree legislation) is centred around ASH but includes a wide range of charities and other organisations that are advocates for tobacco control. Their actions combined with the evidence (often communicated through mass media campaigns) have helped to shape public opinion in favour of measures to address smoking. These measures have built up over time, assisting in denormalising tobacco use which has further contributed to public support. New Labour's support for tobacco control undoubtedly contributed to the rapid progress observed in reducing smoking between 1998 and 2008 in particular - a steady decrease of 0.5% each year. It remains to be seen to what extent the change in government at Westminister in 2010 will affect tobacco control, and smoking prevalence, in the longer term.

Evidence for Action

As outlined above, the evidence-base to inform tobacco control is generally strong. At the international level, The World Bank has identified six key elements of tobacco control policy that are supported by evidence and are cost-effective. These policies form the core of recommendations for action in the FCTC. These policies aim to:

- deliver effective communications and education campaigns;
- support smokers to quit;
- reduce exposure to secondhand smoke;
- reduce tobacco advertising, marketing and promotion;
- effectively regulate tobacco products;
- reduce the availability and supply of tobacco products.

As examples, evidence for action to support smokers to quit and to reduce exposure to second hand smoke is summarised here with a particular focus on evidence to inform action in England.

Smoking Cessation

The vast majority of smokers in England want to stop (more than 70% in 2009) but relatively few succeed in the longer term[20]. The success of quit attempts can be significantly increased if smokers have access to effective treatment. Advice from a health professional, telephone quitlines, behavioural support (counselling in a group or one to one with a trained adviser) and stop smoking medications (NRT, bupropion and varenicline) are all effective and cost-

effective and are available in the UK. The best form of treatment involves a combination of behavioural support and use of stop smoking medication. This combination is provided by NHS stop smoking services and has been shown to be four times more effective than trying to quit unaided[21].

The World Bank and the FCTC recommend that countries should provide treatment services to support smokers to quit. The UK was the first to introduce a national stop smoking service, which remains the most comprehensive in the world. Since 2001 stop smoking services have treated 4.7 million smokers in England resulting in just under 700,000 longer term (at one year) quitters[22,23] Research has demonstrated that these services can also contribute to reducing inequalities in health. A systematic review of the effectiveness of the services, published in 2009, summarised results from studies that had shown that they are reaching and treating disadvantaged smokers[24]. A study published in 2007 and included in this review also found that although disadvantaged smokers had lower quit rates, the NHS services were treating a far higher proportion of these smokers and therefore contributing to bridging absolute and relative gaps in smoking rates between disadvantaged and more affluent areas[25].

Studies have also demonstrated that these services and other cessation treatments are amongst the most cost-effective of any health care intervention. A recent economic analysis conducted for NICE found that cessation interventions of the type offered by stop smoking services cost up to just £985 per quality adjusted life year (the NICE threshold for cost-effectiveness is £20,000 per QALY) with some forms of support offered by the services being cost neutral[26,27].

Protection from Second Hand Smoke

The health effects of second hand smoke (SHS) exposure are well-established[28]. In order to protect workers and the public from these effects, bans or restrictions on smoking in public and workplaces are a key component of tobacco control policy. Smokefree legislation has been in place in England since 2007 and a briefing paper to the Department of Health has recently summarised the impact of this legislation[29]. Smokefree laws results in measurable improvements to respiratory health in workers (i.e. studies of barworker's health in the UK and elsewhere) and reductions in emergency admissions for heart attacks (resulting in 1,200 fewer hospital admissions in the year following smokefree in England). These laws also create an environment that can encourage smokers to cut down or stop (an estimated 300,000 smokers in England tried to quit as a result of the smokefree law) and can contribute to reductions in second hand smoke exposure in children (as demonstrated by studies in England, Scotland and Wales). International studies also suggests that smokefree laws have a net positive effect on businesses although a feasibility study in England concluded that a longer period of post-legislation follow-up data was needed before robust conclusions about the impact on the UK hospitality industry could be made[29].

In England a number of workplaces remain exempt from smokefree legislation. These exemptions mean that both smokes and nonsmokers continue to be exposed to the harmful effects of second hand smoke in these settings. Future policies should consider removing these exemptions and also consider how best to protect children from SHS exposure at home and in the car. A recent Royal College of Physicians report sets out the evidence to support further measures to promote smokefree homes and cars[4].

Despite these examples of evidence to inform action to address smoking, gaps remain. Evidence for some interventions in tobacco control is weak. For examples, programmes targeted at helping young smokers to quit (particularly those under the age of 18) have shown limited if any success. A range of smoking cessation therapies exist for which there is little or no evidence (acupuncture and hypnotherapy, for example). School-based smoking prevention programmes have limited efficacy when provided in isolation from other tobacco control interventions. Some types of mass media campaigns (for example those that try to expose the tactics of the tobacco industry – known as 'denormalisation' campaigns) have been shown to be effective in other countries but not in the UK. Finally, with the exception of the studies of NHS stop smoking services outlined above, there remains limited evidence to inform policies or interventions to reduce inequalities in health caused by smoking.

Conclusion

Each policy measure listed mentioned above has been shown to be effective in its own right. However, both the World Bank and the World Health Organisation have stressed the importance of comprehensive tobacco control. Policies are most effective if delivered as a package, and national policies are most effective if supported regional and local action. Particularly at the local level, whole systems approaches are useful and at least one current example of such an approach in England exists. In Nottingham, an action research project evaluating local action to tackle smoking began in 2009. Nottingham has a higher level of smoking than the national average and smoking in some parts of the city, such as the community of Aspley, is in excess of 40%. The Aspley project aims to:

- Characterise smoking norms and attitudes to quitting, including consideration of trends as a result of national and local developments
- Detail areas of consensus and contention between professional and lay views with regard to knowledge and values about smoking and quitting
- Actively explore and evaluate effective approaches to reducing smoking at the community level

The evaluation of the Aspley project is employing a range of research methods to examine the implementation of (and impact of) the interventions in place. The study is led by Professor Ann McNeill from the University of Nottingham. The Aspley interventions include local mass media work and a range of action in partnership with local retailers, including

work to: assess local tobacco sales; reduce proxy purchasing and underage sales; make available NHS stop smoking service literature; and make NRT more widely available. The project also includes the development of a pathway to draw local smokers into the quitting process through a range of interventions with community workers and the NHS. Results from the Aspley project will be available from 2011. More information can be found at www.ukctcs.org

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