Tobacco and inequalities
August 2013

Key points:
• there are strong and persistent associations between socioeconomic disadvantage, smoking prevalence and rates of tobacco-attributable disease
• disadvantaged areas have the highest rates of smoking and lowest quit rates
• smoking makes a substantial contribution to inequalities in health between the most and least well-off in society
• smoking decreases income available to low income families and incurs a range of other personal and societal economic costs
• different tobacco control policies and interventions can have different impacts on health inequality
• evidence on which interventions/policies are most likely to reduce tobacco related inequalities is limited but this is an emerging area of research.
• currently evidence suggests price increases (via tax) are the intervention most likely to help reduce socioeconomic inequalities in smoking, while non-targeted cessation services are the intervention least likely to reduce inequalities in smoking
• supporting people to quit is a cost-effective intervention, cessation services in Scotland can be effective in helping disadvantaged smokers to quit providing efforts are made to make services accessible and appropriate to these groups
• tobacco control interventions are vital in any strategy to reduce inequality.

Introduction
The relationship between tobacco and health inequality is well-established and consistent. This briefing paper discusses patterns of smoking and deprivation in Scotland, the resulting health outcomes, and effective tobacco control interventions to reduce the health and wellbeing gap between the most well-off and least well-off in society.

Smoking prevalence
Tobacco use in Scotland - as is the case with most other developed nations in the latter stages of the tobacco epidemic - is strongly patterned by deprivation. Data on smoking prevalence in Scotland is obtained from the annual Scottish Household Survey, the most recent year’s data on smoking prevalence by deprivation category is presented in the graph over the page.
While adult (16+) smoking prevalence amongst the least deprived tenth of the population is 11%, well below the national average of 23%, the prevalence amongst the most deprived tenth of the population is 40%, far above the average. In the most disadvantaged communities in Scotland, smoking prevalence is more similar to that seen nationally in the 1970s than they are to the rest of Scotland as it is presently.

Health consequences
Because many of the diseases smoking causes occur several decades after initiation of tobacco use, there is a time-lag between the smoking prevalence of a population, and the rates of smoking-attributable disease. In the UK in 1961 there was no difference in lung cancer mortality between social classes. But by the 1980s a man in an unskilled manual occupation was more than four times as likely to die of lung cancer as a professional and twice as likely to die from coronary heart disease.

Smoking is the most important preventable cause of ill-health and premature death in Scotland, with smoking-attributable deaths accounting for around a quarter of all deaths. However, amongst the most well-off it drops to around 15% of deaths, whilst for the least well-off it rises to 32%. Amongst the 35 - 69 age group an average of 22 years of life are lost per death from smoking.

Reducing health inequalities has been on the policy agenda since 1997 across the UK. Data from England shows that during this period, smoking rates have decreased in most social classes but the smoking gradient between higher and lower socioeconomic classes has increased.

The key findings from a prospective cohort study following 15,000 people from Renfrewshire and Paisley people over nearly 30 years are shown in the graph below. The data from the study shows the survival of never smokers in the lowest social classes was better than survival of smokers in the highest social classes (of the same sex). Being a smoker also negated the survival advantage women normally have when compared to men. From this study, smoking appears to be a greater source of health inequality than social position.
This type of finding, along with other studies\textsuperscript{10} led Professor Sir Michael Marmot, in his independent review of evidence to effectively reduce health inequalities in England to conclude that ‘\textit{tobacco control is central to any strategy to tackle health inequalities as smoking accounts for approximately half the difference in life expectancy between the lowest and highest income groups.}’\textsuperscript{11}

**The economic cost of tobacco use**

Tobacco use incurs a variety of economic costs, both to the individual and to society at large that can serve to increase inequality. A person who smokes 20 cigarettes per day at an average price of £7 per pack will spend over £2,500 a year on tobacco. As well as the overt cost of smoking there are also hidden costs such as increased insurance premiums and more rapid loss of value in vehicles where smoking occurs.

According to national surveys of household expenditure, poorer income households spend a greater proportion of their total household income on tobacco. In 2008, the poorest 10% of households spent £3.40 on average per week on tobacco products. While the best-off 10% of households spent slightly more (£3.70) per week, this equates to a much lesser proportion of average weekly total household expenditure (around 0.4% for the richest compared to 2.1% of the poorest).

Smoking also incurs a range of costs to society, including direct healthcare costs, productivity losses, and excess fire damage and cleaning costs. In Scotland this has been conservatively estimated to amount to nearly £1.1 billion\textsuperscript{12}.

**Quitting & uptake**

Most smokers say they would like to give up smoking altogether\textsuperscript{13}. Smokers in disadvantaged areas perceive a lack of support to help them to stop smoking and rates of stopping smoking are three times lower among the least well-off in society, compared with the wealthiest\textsuperscript{14}. As young smokers who take up the habit age, by their 30s half of more affluent young people have stopped smoking whilst three quarters of those in the lowest income group carry on\textsuperscript{15}. Amongst young people aged 13 to 15 in Scotland, regular smokers are more likely to live in more deprived areas and regular smokers from deprived areas smoke more cigarettes\textsuperscript{16}.

Why are low-income smokers in Scotland more likely to smoke and less likely to quit? The results of research studies and community-based projects suggest a number of factors, including poverty and coping with living in a disadvantaged
environment; unemployment; a pro-smoking culture reinforced by use of cigarettes to foster social participation and belonging; limited experience of environments which encourage cessation; and limited experience of cessation. Research also suggests that factors which reinforce smoking as a social norm (including more advertising and promotion outlets) make it harder for people to quit, as do experiences of financial difficulties.

Analysis of data from NHS smoking cessation services in Scotland shows that they are effective in assisting smokers from poorer areas to quit. Although the individual quit rate for smokers from poorer areas is lower than that of more well-off smokers, services are targeting their efforts so more smokers from disadvantaged areas are seen, resulting in relatively more total quits. In 2012 4.7% of smokers living in the most deprived areas in Scotland (SIMD 1) had quit smoking at one month using NHS smoking cessation services compared to 3.7% of smokers living in the most affluent areas (SIMD 10). Evidence from England suggests that if smoking cessation services are to help narrow health inequalities, they need to be of a particularly high standard and more intense in deprived areas. Staff involved in providing cessation services also need to be trained in ways which enable them to take account of inequalities.

Reducing health inequality through tobacco control
As smoking causes a significant health and economic burden on the communities in Scotland least able to afford it, tobacco control is integral to any strategy that aims to reduce inequality, acknowledged both in Professor Sir Michael Marmot’s review of Health Inequalities in England, and the Equally Well report of the Scottish Government’s Ministerial Task Force on Health Inequalities.

A range of evidence-based measures exist to help reduce smoking at the population level, many of which are contained within the World Health Organisation’s Framework Convention on Tobacco Control, to which the UK is a signatory. However, while there is good evidence on what types of tobacco control policies and interventions are effective in reducing smoking uptake and prevalence, far less is known about what is effective in reducing tobacco related inequalities. Similarly, evidence of interventions that are effective among lower socioeconomic groups is sparse. Several systematic reviews of the evidence of the impact of tobacco control interventions on socioeconomic inequalities in smoking have been published or are in press. Of the three most up-to-date (in press) reviews, two focus on evidence of the equity impacts on adults and the other on evidence of the equity impacts on young people. The results are summarised in tables, over the page.

Reviews of evidence for tackling health inequalities tend to suggest that ‘upstream’ preventive interventions (which change the context in which people are living and working) are more likely to reduce health inequalities than ‘downstream’, voluntary interventions which rely on individuals’ capacity to change. The latter can unintentionally exacerbate health inequalities because response rates are often better in more advantaged groups. Focusing on reducing tobacco related inequalities and overall health inequalities are, however, not mutually exclusive and tackling the high prevalence of smoking among disadvantaged groups is likely to require a combination of tobacco control measures delivered simultaneously with broader efforts to reduce health and other societal inequalities.
Table: Summary results of three systematic reviews concerning the equity impact of tobacco control interventions (two examining effects on adults, one on young people)\(^2\)\(^3\)

<table>
<thead>
<tr>
<th>Adults (1)(^4)(^2)</th>
<th>Demonstrable pro-equity impact</th>
<th>Mixed/Potential for a pro-equity / neutral equity impact</th>
<th>Demonstrable negative equity impact</th>
<th>No evidence or inconsistent evidence so impact on inequalities unknown</th>
</tr>
</thead>
</table>
| There is strong evidence that price-increases (e.g. via tax increases) help reduce inequalities in smoking. | There is limited evidence that targeted mass media tobacco control campaigns, and those employing personal testimony may be more effective in reaching low socio-economic status (SES) smokers.  
The evidence of the impact of targeted smoking cessation programmes on smoking related inequalities is mixed.  
There is some very limited evidence of the impact of multi-faceted, population level tobacco control interventions/policies.  
There is some evidence that comprehensive smokefree legislation may have the potential to reduce socioeconomic gradients in exposure to second-hand smoke, although more research is needed in this area. | There is evidence mainstream (non-targeted) smoking cessation programmes have a negative equity impact due to higher quit rates among more advantaged smokers.  
Some evidence that voluntary smokefree legislation may increase socioeconomic gradients in workplace exposure to second-hand smoke (SHS).  
Some evidence mainstream mass media tobacco control campaigns exacerbate smoking related inequalities as higher SES groups more likely to quit / reduce consumption. | No published studies examining the impact of advertising bans by SES were identified.  
No published studies examining the impact of health warnings by SES were identified. |
<table>
<thead>
<tr>
<th>Demonstrable pro-equity impact</th>
<th>Mixed/Potential for a pro-equity / neutral equity impact</th>
<th>Demonstrable negative equity impact</th>
<th>No evidence or inconsistent evidence so impact on inequalities unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>The clearest and most consistent evidence of a positive equity impact was for price/tax increases: over half of the studies of increases in the price/tax of cigarettes were associated with a positive equity impact.</td>
<td>National comprehensive smokefree legislation reduces SHS exposure, increases quit attempts and has positive population health effects. By definition such policies have a positive equity impact in removing inequalities in policy coverage. However, only two of the 22 studies identified in this area evaluated national smokefree legislation demonstrated an overall positive equity impact using other outcome measures. Only three studies looked at restrictions on marketing and were associated with neutral equity impacts. There was no consistent equity impact for studies of mass media cessation campaigns but a Dutch multimedia campaign targeted at smokers with an intention to quit smoking and with a focus on lower educated smokers, was associated with a positive equity impact for campaign awareness; and a tobacco control paid media campaign in the US was associated with a more rapid decline in smoking prevalence among low SES women. Evidence suggests different types of media messages have differential impacts by SES, with some limited evidence that emotionally evocative, testimonial and graphic messages were more likely to be equity positive. The media format of the campaign and the mechanisms of engagement also varied by SES. Limited evidence suggests that different elements of multiple policies may impact differentially by SES, and that within and across SES groups, the impact of multiple tobacco control policies can vary by age, gender and the type of smoking outcome.</td>
<td>The evidence suggests that partial, voluntary or regional adoption of smokefree policies can increase socioeconomic inequalities in protection from secondhand smoke (SHS) exposure.</td>
<td>The evidence available so far demonstrates no clear trend for the equity impact of mass media campaign studies. The types of interventions using settings-based approaches were very variable and had inconsistent equity impacts.</td>
</tr>
<tr>
<td>Studies focusing on health warnings found that they had neutral or positive equity effects.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Demonstrable pro-equity impact | Mixed/Potential for a pro-equity / neutral equity impact | Demonstrable negative equity impact | No evidence or inconsistent evidence so impact on inequalities unknown
--- | --- | --- | ---

| | | | Three studies involved multiple policy interventions but they were very different from each other (two national and one at community level in three different countries looking at different types of policies) which makes it difficult to draw any conclusions about the equity impact of multiple policy interventions.

There was inconsistent evidence concerning the equity impact of reducing access to cigarettes through increasing the minimum age of sale, including vending machines sales.

Only one study was identified which assessed the equity impact of a mass media campaign on youth (the US based Truth campaign). The overall equity impact was difficult to assess but it was deemed neutral in terms of equity of receptivity.

With the severe burden of disease, disability and premature death caused both by active smoking and by exposure to tobacco smoke\(^45\) and the economic costs of tobacco use to individuals\(^46\) and society\(^12\), reducing tobacco use must be a key consideration in work to reduce health inequalities. To ensure tobacco control interventions help reduce (and do not exacerbate) inequalities, it will be important not to rely overly on voluntary interventions targeting individuals and that they are accompanied by efforts to address ‘upstream’ social determinants. In relation to smoking cessation specifically, it is important to ensure that services are of a particularly high standard (and probably more intense) in deprived areas\(^22\) and that staff are trained in ways which enable them to take account of inequalities\(^23\)\(^24\).
References

15 Ibid.
21 Ibid.


