The Bauld truth

The Impact of Smokefree Legislation in England: A critique of the evidence review using publicly available information

Imperial Tobacco Group
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http://www.imperial-tobacco.com
Summary and recommendations

- In the context of setting out its Tobacco Control Plan for England, the UK Department of Health published a report by Professor Linda Bauld, whom it commissioned to provide an academic review of the ‘smokefree’ (smoking ban) legislation that was implemented in England in 2007.

- The review conducted by Linda Bauld - who has a clear conflict of interest - is lazy and deliberately selective, and is easily refuted using freely available information. It falls well short of the Regulatory Policy Committee’s principles by which the robustness and quality of the analysis and evidence used to inform policy decisions must be judged.

- Public policy should be protected from the vested interests of any single issue group, including the pharmaceutical industry and the vociferous, substantially taxpayer-funded lobby groups such as Action on Smoking and Health ("ASH"), of which Linda Bauld is a member.

- The Government should find an appropriate and recognised third-party to objectively analyse and review the impact of the 2007 smoking ban, devoid of the conflicts of interest that are all too apparent in the current review paper.

- At the very least, the Regulatory Policy Committee should conduct an objective evaluation of Linda Bauld’s review.
Introduction

In March 2011, the UK Government published its Tobacco Control Plan for England which set out the Government’s plans to “…support efforts to reduce tobacco use over the next five years.” Published alongside the plan was a report by Professor Linda Bauld (then at the University of Bath), which was commissioned by the UK Department of Health (“DoH”) to provide an academic review of the smokefree legislation that was implemented in England in 2007.

According to DoH the “…evidence is clear that smokefree legislation has had beneficial effects on health.”

Or is it? Within this critique we investigate the various conclusions in Linda Bauld’s report and find them seriously lacking. The key criticisms are that Bauld has presented flawed evidence and failed to validate her findings, including with those most affected by the regulation.

The process of gathering evidence to support regulation should be measured against the principles set out by the Regulatory Policy Committee (“RPC”)3. These principles are focused on ensuring the robustness and quality of the analysis and evidence used to inform policy decisions. Importantly they set out that:

- Substantive evidence should be obtained from a range of different sources;
- Evidence should make use of results of public consultations, especially where it relates to the impact of regulatory proposals.

By these criteria, Linda Bauld’s selective review falls seriously short of what is required of evidence to support regulation.

Why is Bauld’s review weak and highly selective?

Imperial Tobacco is concerned that this deliberately selective review forms the basis for the Government’s evaluation of the UK smoking ban, and is being used to inform public health strategy.

Bauld is Vice-Chair of Cancer Research UK’s Tobacco Advisory Group, Member of the Action on Smoking and Health (“ASH”) Advisory Council, Member of the Smokefree South West Programme Board and Member of the International Network of Women Against Tobacco (“INWAT”).

Furthermore, Bauld’s review extensively refers to other “… studies commissioned by the DoH, to evaluate the impact of smokefree legislation in England…”, the authors of whom are all individually acknowledged by Bauld, and are all affiliated with the UK Centre for Tobacco Control Studies (“UKCTCS”)4. The UKCTCS is a network of nine universities which, between May and September of

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3 Regulatory Policy Committee: Challenging Regulation. An independent report on the analysis supporting regulatory proposals, September-December 2010 Published February 2011
4 Amanda Amos: Professor of Health Promotion at Edinburgh University. Convenor of the University of Edinburgh Tobacco Control Research Group; Jon Ayres: Professor of Environmental and Respiratory Medicine at Birmingham University. Claimed that non-smokers suffered fewer heart attacks after the ban in 2007; Cathy Flower: Administrator, Tobacco Control Research Projects at Bath University; Karen Galea: Senior Scientist, Institute of Occupational Medicine, University of Edinburgh.; Martie van Tongeren: Head of Human Exposure, Institute of Occupational Medicine, University of Edinburgh; Sean Semple: Senior Lecturer, Department of Environmental & Occupational Medicine, University of Aberdeen. Is also based at the Institute of Occupational Medicine, University of Edinburgh; Ivan Gee: Senior Lecturer in Public Health at Liverpool John Moores University; Christine Godfrey: Head of Department and research team leader for the Addiction Research Group at the University of York; Katrina Hargreaves: Based at the University of London. Member of
last year alone, received over £17 MILLION from the DoH - taxpayers' money - to fund ‘research and development’\(^5\). This may explain why the review is so selective. One must therefore question to what extent this review can be taken to be ‘independent’.

According to Bauld:

- there has been "no clear adverse impact on the hospitality industry";
- there has been "a significant drop in hospital admissions for heart attacks as a result of smokefree legislation"; and
- "it is now apparent that this type of legislation has the potential to change social norms around smoking and results in changes in smoking behaviour..." [evidenced by] "...a general pattern of reduced tobacco consumption among participants in all locations, including cutting down and, to a lesser extent, quitting."

However, as we will show, none of these claims stand up to scrutiny. Instead, in compiling her report, Bauld uses selective pieces of evidence, ignores several important studies which don’t complement her views and consequently draws erroneous and misleading conclusions. We will deal with each of these claims in turn.

**The economic impact of the smoking ban has been wholly negative**

The Executive Summary asserts that the smoking ban has had a net positive effect on the UK hospitality industry. Bauld claims that her findings have been drawn from three main sources: a review of relevant literature, the Labour Force Survey and other official data sources.

The review fails to acknowledge the abundance of publicly available data and other studies that demonstrate the negative impact of the smoking ban on the hospitality industry. Most significantly, the review has certainly not sought to verify these findings with the hospitality industry itself.

**Why else have these widely available, significant figures not been included in the review?**

- In the twelve months June of 2009 to June 2010, almost 2,000 English pubs closed\(^6\). 4,791 pubs have closed in total since the smoking ban was introduced in 2007\(^7\);
- The rate of pub closures has almost trebled since the ban (1.1% between 2004-2007 (pre-ban) increasing to 2.8% between 2007 and 2010 (post-ban))\(^7\);
8.4%\textsuperscript{7} of pubs in the UK and 12%\textsuperscript{8} of bingo halls have closed since the ban; Around 25 pubs are closing every week\textsuperscript{9}.

\textit{Or these findings, taken from a jointly-run 2008 study by the British Institute of Innkeeping (“BII”) and the Federation of Licensed Victuallers’ Association (“FLVA")?}

Community drink-based pubs have borne the brunt of the losses. This was confirmed by perceptions of individual bar-owners to the ban one year after implementation. From the 2,708 responses to the survey:

- The proportion of smoking customers dropped from 54% to 38%;
- 66% reported that their smoking customers were staying for shorter periods;
- 75% reported that smokers were visiting less frequently;
- 47% of businesses had laid off staff, although 5% had recruited additional staff;
- Income from drinks fell by 9.8%;
- Income from gaming machines fell by 13.5%.\textsuperscript{10}

And that’s not all.

In one of the most comprehensive studies\textsuperscript{11} into the impact of the smoking ban, CR Consulting revealed a striking correlation in the rate of closures in England, Scotland and Wales following the smoking bans in each country.

Previous commentators may have overlooked the striking similarity in the rates of decline found in each of the different regions across Britain and Ireland after smoking bans. Clearly the different start times for each ban have obscured this similarity, causing commentators to look to other reasons for pubs closing. However, once this link is made, it becomes clear that “...the smoking ban is demonstrably the most significant cause of pub closures.”\textsuperscript{11} The report predicts pub numbers will continue to fall, with another 1,700 businesses likely to close in England before the fourth anniversary of the ban in July 2011.

Using widely accepted statistics for the net figure of pubs closing, the common trajectory shows closures accelerating after the first year of the ban in each country - from between 0.5% and 1.2% in the first year to between 3.7% and 4.4% in the second year. Scotland lost a further 3.7% of its estate in the third year. The study concludes that “…while not the only factor in causing pub closures, the smoking ban has made a very considerable contribution to the decline of the British pub.”\textsuperscript{11}

Recognising this clear link, the leaders of all trade associations representing individual pub licensees have continued to comment on the impact of the bans long after they have been implemented.

The Scottish Licensed Trade Association (“SLTA”) are currently campaigning for a relaxation of the ban to allow struggling traditional pubs and bars to survive. SLTA’s Chief Executive Paul Waterson

\textsuperscript{7}http://www.guardian.co.uk/news/datablog/2010/apr/12/general-election-labour-manifesto-pub-closures
\textsuperscript{8}http://www.official-documents.gov.uk/document/hc0607/hc06/0680/0680.pdf (p.27);
\textsuperscript{9}http://www.beerandpub.com/newsList_detail.aspx?newsId=393 (p.10)
\textsuperscript{10}BII/FLVA, 2008, The Impact of Tobacco Controls on Individual Licensees
\textsuperscript{11}CR Consulting (2010) ‘Smoking gun: is the smoking ban a major cause of the decline of the British pub?’
has stated that Scotland has lost 800 pubs since the introduction of the smoking ban in 2006. He said: “We've very successfully got rid of the smoke but at the price of losing many of our most loyal and valuable customers - and the pubs that went with them. In those five short years ... around 800 pubs have closed throughout Scotland. That’s about one in eight, and four times the pre-ban rate.”

In its 2008 report, The BII and FLVA commented that “…the smoking ban has had a serious and continuing effect on trade with the very important custom of smokers much diminished, and little positive news in terms of increased non-smoker or family business. The impact has been borne most by the community, drink-based pubs - which also have the fewest resources to withstand the downturn.”

Bill Sharp, Chairman, Guild of Master Victuallers said: “...the number of pubs in England has dropped in 10 of the 11 quarters following the indoor ban...By providing us with a guarantee to roll back regulation the Government will give us the confidence to invest and move forward.”

Stephen Kelly, chief executive of the Federation of the Retail Licensed Trade in Northern Ireland, said he expected the country “…to lose seven per cent of its pubs over the next two years.”

This experience is not just unique to the UK, with examples ranging from Ireland, Canada, Australia and New Zealand.

This weight of evidence demonstrates that smoking bans cause a massive decline in smoker spending. Regulators and public health authorities claim that any loss in revenue from smokers is matched by increased revenue from non-smokers. This publicly available relevant literature - completely ignored by Bauld as it was felt that a “longer-term analysis of impact is needed” - demonstrates that it is simply not the case.

Significant revenue declines and job losses continue in every country where a smoking ban has been introduced. Regulators, encouraged by single issue tobacco control lobbyists, have found it acceptable for the hospitality industry to incur these losses despite the significant impact on local communities.

Heart attack hospital admission rates have not been affected by the smoking ban

According to Bauld, “...new evidence has recently been published on the impact of smokefree legislation on reducing hospital admissions for myocardial infarction (MI) - heart attack;”

This ‘new evidence’ was co-authored by Bauld.

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12 Morning Advertiser (June 2011): ‘Scots trade group in smoke-ban fight’
13 5 June 2011, Edinburgh Evening News
14 BII / FLVA (2008) ‘Tobacco Control in the Licensed Trade - the past, the present and the future’
15 30 June 2010, Morning Advertiser – in response to a government statement
16 30 April 2008, The Publican
17 Morning Advertiser (September 2010): ‘Irish pub trade in ‘meltdown’
18 Pacific Analytics Inc. (2000) “The Economic Impacts of the Proposed Amendment to the ETS Regulation.”
19 Sydney Morning Herald (2008) ‘Smoking ban puts 300 pubs in tax bind’
20 WIN Party (2006) ‘Smoking ban killing off the iconic Kiwi pub’
The paper claims that there were 1,200 fewer emergency hospital admissions for heart attacks or acute myocardial infarction ("AMI") in England, equating to a drop of 2.4% in the year after July 2007, which the authors claim to be as a direct result of the introduction of the smoking ban.

There are two immediate, simple problems with this assertion:

- The claim is based entirely on a computer model, the details of which have never been published, meaning that the reader has no transparency of the assumptions that have been fed into the model, and therefore has to take the findings on trust with no supporting evidence; and
- The post-ban drop was almost exactly the same as the average of the previous 24 months.

When understood in context it becomes clear that the data for 2007/8 is merely consistent with the long term trend. This is a clear case of the facts being selectively presented to fit an argument. Importantly:

- The underlying reduction in emergency AMI admissions forms part of a long term trend. The average reduction in the two years prior to the smoking ban was 4.2% - almost exactly the same as it was in the year after the smoking ban;
- According to one observer, "...the fact that the decline in AMI was unexceptional in 2007/08 is therefore used as proof that the smoking ban had an exceptional effect".\(^{22}\)

Furthermore, there are more fundamental questions about the use of admissions data for this purpose as:

- Due to the nature of emergency admissions, some primary diagnoses may change as a result of further investigation by specialists;
- The findings rely on hospital episode statistics for which the NHS itself advises that caution should be exercised when using such data as it may lead to "...false assumptions about trends".\(^{23}\)

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\(^{22}\) [http://velvetgloveironfist.blogspot.com/2010/06/latest-smoking-banheart-attack-study-is.html](http://velvetgloveironfist.blogspot.com/2010/06/latest-smoking-banheart-attack-study-is.html)

\(^{23}\) NHS Information Centre advises: "Please exercise care when comparing HES figures for different years. Fluctuations in the data can occur for a number of reasons, e.g. organisational changes, reviews of best practice within the medical community, the adoption of
There may be variation between hospitals in the way that they code diagnoses, particularly primary diagnosis, and it is possible for readmissions to be counted twice where these are coded as an emergency and have the same primary diagnosis;  

Experts advise that statistical analysis on the first admission a patient undergoes should be avoided “…as it discards those aspects of hospitalisation that are informative about disease burden…”  

Given the sheer number of uncontrolled risk factors for AMI, many of which may not be fully understood, it is inappropriate to make conclusions about the impact of the smoking ban based on data from emergency AMI admissions.

It is wrong and misleading, and actually quite appalling, that the public health community continues to attribute these ‘benefits’ to recent legislation even though the longer term trend explains them. In any case this type of data is not intended to withstand such rigorous statistical analysis.

One must also question why it is acceptable to include such short-term analysis when similar short-term evidence of the impact on the hospitality trade has been ignored.

**Quitting intentions have not led to reduced consumption**

According to the review, “…it is now apparent that this type of legislation has the potential to change social norms around smoking and results in changes in smoking behaviour.” Bauld explains that changes in social norms and smoking behaviour equate to increased quit attempts and reduced tobacco consumption. In making these assertions Bauld highlights several ‘intention’ studies. Such studies are never a good predictor of actual behaviour. It seems strange that Bauld does not utilise actual smoking consumption data or prevalence rates as a measure against the effectiveness of the smoking ban.

It is often cited within the tobacco control community that the introduction of comprehensive smoking bans leads to marked reductions in smoking consumption. Such assertions (as is the case in Bauld’s review) are made on the back of survey data of intentions to quit. But does UK prevalence and consumption data actually support this claim?

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new coding schemes and data quality problems that are often year specific. These variations can lead to false assumptions about trends. We advise users of time series data to carefully explore the relevant issues before drawing any conclusions about the reasons for year-on-year changes.”

24 NHS Clinical and Health Outcomes Knowledge Base

Evidence presented in *A Smokefree Future* on smoking prevalence actually showed a small *rise* in adult smoking rates since 2007\(^{26}\), a fact that was recently published by ASH\(^{27}\). This was also reflected in SALSUS survey in Scotland where a similar upturn in youth smoking occurred after the smoking ban was introduced in 2006\(^{28}\). This completely undermines the view that the smoking ban has reduced the prevalence of smoking.

What about consumption data? Is this consistent with Bauld’s claims?

During 1990-1997, consumption fell by 21.8%, whilst within a relatively short period, 1997-2000, consumption fell by 27.1%. The rate of decline during 2000-2009 was unable to match previous trends, but did decline by 17.4%. **However, after the smoking ban was introduced in 2007, cigarette consumption in the UK only declined by 1%**, completely removed from the past 19 year trend.

\(^{26}\) *A Smokefree Future*, published February 2010, (p.15)  
\(^{27}\) ASH, 10\(^{th}\) June 2010, (p.15)  
\(^{28}\) *Scottish Schools Adolescent Lifestyle and Substance Use Survey (SALSUS)* - National Report 2008, (p.29)
These trends are also mirrored in other jurisdictions that have enacted comprehensive smoking bans:

- Ireland: an increase of 1% since the smoking ban;\(^{29}\)
- Norway: an increase of 2.1% since the smoking ban;\(^{30}\)
- New Zealand: an increase of 5% since the smoking ban;\(^{31}\)
- Australia: an increase of 1% since the smoking ban.\(^{32}\)

As stated, many in tobacco control specifically claim that full indoor smoking bans lead to increased quit rates and a marked reduction in smoking. From analysing empirical data, this specific claim can be easily rebuffed - in the five full ban markets examined there has been no marked reduction in cigarette consumption and in many cases there has been an increase.

Looking specifically at youth smoking - the reduction of which is a key objective of the Government’s tobacco control strategy - the results for the UK are even more striking. Utilising data from the Office for National Statistics\(^{33}\) ("ONS"), youth smoking (16-19 year olds) actually increased following the introduction of the smoking ban, from a prevalence rate of 21% in 2007 to 24% in 2009.

Further to this, ONS data also highlights that smoking amongst manual workers (a group specifically targeted as a priority, which the smoking ban legislation it was claimed would address) has also increased, from 25% in 2007 to 26% in 2009. There is no mention of this socio-economic group in Bauld’s review.

Bauld also concludes that there is no evidence of a shift in smoking to the home from pubs and workplaces. So where does Bauld think these smokers gone?

Whilst many of the papers cited in Bauld’s review use dubious questionnaire-based ‘intention’ studies to support what are probably pre-determined conclusions, we would always advocate the use of ‘actual’ data based on real outcomes to validate such intentions. The result of this data is clear; the smoking ban has not achieved the Government’s stated health objective of reducing consumption although it appears this is not what Bauld, her associates, or the DoH want to report.

There is a reliance on selective and poor quality ‘evidence’

Bauld’s review refers to two reports by Semple et al\(^{34,35}\). This is part of the centrepiece of her review and focuses on bar workers’ exposure to tobacco smoke. Semple sought to measure:

- exposure to environmental tobacco smoke ("ETS") via cotinine concentrations in saliva;
- air quality samples; and

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\(^{29}\) CECCM - 1990-2005, ERC 2006-2007: Note: Duty paid sales only
\(^{30}\) Directorate of Customs and Excise & Directorate for Health and Social Affairs, Norway
\(^{31}\) Statistics New Zealand: Note: Duty paid sales only
\(^{32}\) ERC estimates based on TIA, ABS and trade sources. Note: Duty paid sales only; subscription site
self-reported health of bar workers and attitudes to smokefree legislation.

From these reports Bauld concluded that “…bar workers’ health showed significant improvements following the introduction of smokefree legislation in England.,” that a consensus were “…agreeing or strongly agreeing with the proposed ban…”, and that “…concern about the potential economic effects on the bar trade of the legislation … reduced markedly in the period immediately following the introduction of the legislation.”

The measurements of bar workers exposure rates and air quality in England took place in 3 phases:
- Phase 1, in May/June 2007 (just before the smoking ban was implemented);
- Phase 2, one to two months later; and
- Phase 3, a year after Phase 1.

However, Semple had problems maintaining the sample size throughout this study which diminished from 178 at Phase 1, to 118 (66%) at Phase 2 four months later, to only 63 (35%) at Phase 3. Therefore, when Bauld claims that there was a drop in the percentage of workers reporting respiratory problems (including from colds) between Phase 1 and Phase 3 she is not comparing like with like.

It appears that Semple was aware of the flaws in the sampling size because when he wrote up the data in the open literature he omitted any reference to the respiratory condition of the bar workers and reported only on the air quality measurements, which were unaffected by the sampling problems. As an aside, it is interesting to note that Semple recorded that air quality in pubs was not impacted by smoking at doorways.

We have noted some other interesting discrepancies that Bauld’s review has seemingly missed or made inaccurate assumptions from. Many of the cited studies in Bauld’s review only consider impacts up to the end of 2007. Even if Bauld intended on measuring the short-term impact of the smokefree legislation, the longer term impacts (i.e. beyond 2007) should be included. It is not as if Bauld’s and the UKCTCS’ Government funding to conduct such research has run dry.

Our view

Sadly, none of this is surprising; we have become used to the public health community and the anti-tobacco lobby groups churning out made-to-measure studies to suit their objectives. It would have been refreshing for the DoH to commission a review that took a balanced look at all of the available evidence, pros and cons, including all relevant research and data, and made an informed, objective judgement regarding the impact and effectiveness of the smoking ban legislation. Such a review would inspire confidence in the policy outcomes.

It appears that the DoH lacks the conviction that its own policy is sufficiently evidence-based, and therefore it cannot rely on a truly independent review to support it.

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36 Semple’s review for DoH, Health Survey of England data (p.6); Jarvis et al (published 2009); Information Centre (2008); Fowkes et al (2008); Annual Business Survey data only to 2008 (p.14); Biener, Gallus and Waa & McGough (3 studies on hospitality impact from 2006/7 (p.15)

37 http://www.guardian.co.uk/politics/government-spending-data/search?page=1&order=asc
RECOMMENDATION – A clear need for independent review

We have shown that none of the claims made about the impact of the smoking ban in England in Linda Bauld’s review actually stand up to scrutiny. The fact that each of these claims can be refuted so easily by testing them against data freely available in the public domain demonstrates that Bauld’s paper is a lazy and selective analysis from an observer whose various involvements and connections represent a clear conflict of interest. This is not what we would expect from an independent academic evidence review.

It is important that public policy should be protected from the vested interests of any single issue group. This should apply not only to companies such as Imperial Tobacco, but also to the commercial interests of the pharmaceutical industry and to vociferous, substantially taxpayer funded lobby groups such as ASH, of which Linda Bauld is a member.

The Regulatory Policy Committee (“RPC”) has laid down principles by which the robustness and quality of the analysis and evidence used to inform policy decisions must be judged. We therefore ask for the RPC to conduct an objective evaluation of Linda Bauld’s review, taking into account the evidence that we have presented and also what might be available from other sources.

We also call on the Government to find an appropriate and recognised third-party to analyse and review the impact of the 2007 smoking ban, without the conflicts of interest that are all too apparent in the current review paper. A range of evidence should be reviewed, covering all aspects of impact and effectiveness.

Although some taxpayer-funded lobby groups will immediately claim that Imperial Tobacco is only aiming to “throw sand in the gears of health policy”38, in reality we have only ever sought to bring objectivity and balance to the debate, in this case by presenting the wide range of evidence freely available from the public domain, that Bauld has chosen to ignore.

Bauld’s review should be submitted to public scrutiny. Without such transparency how can anyone have confidence in Government policy going forward?

Contact:

We would welcome any opportunity to discuss the issues presented in this document in more detail. If you would like to do so please contact:

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38 ASH, 10th June 2010