

## SECOND HAND SMOKE EXPOSURE SLASHED AFTER THREE MONTHS OF SMOKEFREE ENGLAND

Hospitality workers' exposure to harmful second hand smoke has fallen by 95 per cent since smokefree workplaces were introduced in England on 1 July 2007, according to new research revealed today (Monday) at the National Cancer Research Institute Conference in Birmingham on the three month anniversary of smokefree England.

Researchers from the Tobacco Control Collaborating Centre in Warwick, funded by Cancer Research UK, found that non-smoking hospitality workers also had four times less cotinine – a by-product of nicotine and indicator of tobacco smoke exposure – in their saliva in August than they had in June.

They calculated that on average, employees' exposure was the equivalent to smoking 190 cigarettes a year before the legislation, and this dropped to the equivalent of around 44 cigarettes after.

The researchers assessed the air quality in almost 40 venues across the country – including pubs, bars and restaurants. They found that levels of 'small particles' in the air contained in cigarette smoke dropped from near hazardous levels in June to levels that are similar to the outside air in August.

In the first report on the impact of the English smokefree legislation on health, behaviours and attitudes of the hospitality and leisure industry, researchers visited 59 businesses across England in June and August - including bars, pubs, clubs, bingo halls, betting shops, cafes and private members clubs.

In each business, the owner, four employees and four customers were recruited. The attitudes and behaviours of the business owners, employees and customers towards the smokefree law were also assessed.

Hilary Wareing, co-director of the Tobacco Control Collaborating Centre, said: "The improvements in air quality and reduction in cotinine levels were even better than we could have imagined. This study proves beyond doubt that smokefree workplaces are helping to improve the health of the nation's hospitality workers."

Prior to the legislation, 84 per cent of employees thought second hand smoke at work put their health at risk and just one month on, just over half of employees believe their health is better as a result of the law. Customers agreed with almost 80 per cent thinking the health of employees is better post legislation.

Impact on businesses turned out to be better than business owners expected in June, when over half said the law would have a negative effect on their trade. When asked in August, 70 per cent said the law had a positive or no impact on their trade.

Hilary Wareing added: "We were very pleased to find that the vast majority of venues are complying with the law, with over 91 per cent of business owners managing to go completely smokefree and only a few venues experiencing difficulties. Business owners also said that going smokefree was easier than they had expected."

Elsbeth Lee, senior tobacco control manager at Cancer Research UK, said: "Although we won't see a reduction in cancer rates for some years to come, the short term health gains we have seen here are very encouraging. As one of the largest countries in the world to adopt comprehensive smokefree legislation to date, we hope these results will demonstrate to other nations that this legislation is workable and has almost immediate health benefits."

"As we approach the winter months, it's important that businesses keep up the good work. We encourage smokers who have spent the summer smoking outside to get support from the NHS stop smoking services to help them quit for good and reduce their risk of cancer in later life."

## Notes to Editor

### Monitoring for Compliance

This study was funded by Cancer Research UK and undertaken by the Tobacco Control Collaborating Centre (TCCC) in collaboration with Regional Tobacco Policy Managers and local services.

The project methodology was reviewed and approved by the Ethics Committee of Coventry University. All data were collated centrally by the TCCC who were also responsible for the analysis of the attitudinal and observational data. Particulate matter and cotinine data were analysed and interpreted by scientists of the Institute of Occupational Medicine in Edinburgh and the University of Aberdeen.

Trained fieldworkers visited businesses in six regions in England – East Midlands (15.6% of businesses included in the study), West Midlands (17.2%), North East (14.8%), East of England (16.4%), South East (4.9%) and South West (31.1%).

### Air quality results

Particulate matter 2.5 (PM2.5) is a well established surrogate for second hand smoke concentrations. Indoor concentrations of PM2.5 were measured to assess air quality in each venue. On average, PM2.5 levels reduced from 217 micrograms per cubic litre ( $\mu\text{g}/\text{m}^3$ ) in June to 11  $\mu\text{g}/\text{m}^3$  in August – a reduction of 206  $\mu\text{g}/\text{m}^3$  or 95 per cent.

The US Environmental Protection Agency's outdoor Air Quality Index rates levels of 150  $\mu\text{g}/\text{m}^3$  as 'unhealthy' and levels of 250 as hazardous to health.

### Salivary cotinine results

Cotinine is by-product of nicotine and can be found in saliva. Since cotinine can only be made from nicotine and since nicotine enters the body with cigarette smoke, cotinine measurements can show how much cigarette smoke has entered the body. The word 'cotinine' is an anagram of 'nicotine'.

Thirty-nine samples of cotinine taken from employees pre- and post-legislation were analysed by ABS Laboratories in London. Average salivary cotinine levels fell from 3.6 nanograms per millilitre (ng/ml) in June to 0.9 ng/ml in August – a 2.7 ng/ml reduction or 75 per cent drop.

## About the NCRI Cancer Conference

The National Cancer Research Institute (NCRI) Cancer Conference is the UK's premier forum for disseminating advances across all aspects of cancer research.

AstraZeneca is the gold sponsor for the NCRI Cancer Conference 2007.

## About the NCRI

The National Cancer Research Institute (NCRI) was established in April 2001. It is a partnership between government, the voluntary sector and the private sector, with the primary mission of maximising patient benefit that accrues from cancer research in the UK through coordination of effort and joint planning towards an integrated national strategy for cancer research. [www.ncri.org.uk](http://www.ncri.org.uk)

The NCRI consists of: The Association of British Pharmaceutical Industry (ABPI); The Association for International Cancer Research; The Biotechnology and Biological Sciences Research Council; Breakthrough Breast Cancer; Breast Cancer Campaign; Cancer Research UK; Department of Health; Economic and Social Research Council; Leukaemia Research Fund; Ludwig Institute for Cancer Research; Macmillan Cancer Support; Marie Curie Cancer Care; The Medical Research Council; Northern Ireland Health and Personal Social Services Research & Development Office; Roy Castle Lung Cancer Foundation; Scottish Executive Health Department; Tenovus; Wales Office of Research and Development for Health & Social Care; Wellcome Trust; and Yorkshire Cancer Research.