Main Outcome Measures: Mean weekly duration of self-reported tobacco smoke exposure; geometric mean salivary cotinine. Cotinine is an excellent marker of exposure to tobacco. Low levels indicate exposure to other people’s smoke; 12 ng/ml is the best cut-off for personal tobacco use. Analyses adjusted for the complex (stratified, clustered) sampling design and weighted for non-response to interview and saliva sample, as appropriate.

Results: Most adult non-smokers reported no-one smoked in the home most days (95% before and 95% after 1st July 2007). Non-smokers’ mean self-reported exposure to tobacco smoke fell from 4.2 hrs (95% CI 3.6 to 4.9) before to 2.0 hrs (1.5 to 2.4) after 1st July in men and from 3.5 hrs (2.9 to 4.1) to 1.4 hrs (1.0 to 1.7) in women (both p<0.001). Exposure was inversely related to age-group but fell most in those with the highest exposure: from 5.9 hrs (4.9 to 6.9) to 2.8 hrs (2.3 to 3.3, p<0.001) aged 16–34 yrs; from 3.4 hrs (2.9 to 4.0) to 1.4 hrs (1.0 to 1.7, p<0.001) aged 35–64 yrs; and 2.1 hrs (1.5 to 2.7) to 0.9 hrs (0.4 to 1.4, p=0.002) aged 65+. Similar falls occurred in all three NS-SEC groups: professional/managerial from 4.2 hrs (3.5 to 5.0) to 1.7 hrs (1.5 to 2.1); intermediate from 3.9 hrs (2.9 to 4.8) to 1.7 hrs (1.4 to 2.1); and routine/manual from 7.9 hrs (6.7 to 9.1) to 4.9 hrs (4.0 to 5.8) (all p<0.001). Overall, the proportion with undetectable salivary cotinine levels rose from 32% to 46% of cotinine-validated non-smokers. Geometric mean cotinine levels in cotinine-validated non-smoking adults fell from 0.20 ng/ml (95% CI 0.18 to 0.22) in the first half of 2007 to 0.14 ng/ml (0.13 to 0.15) after 1st July 2007 in men and from 0.19 ng/ml (0.17 to 0.21) to 0.12 ng/ml (0.11 to 0.13) respectively in women (both p<0.001). With self-reported exposure, levels before July 2007 were highest in the youngest age-group, who experienced the largest falls: from 0.23 ng/ml to 0.15 ng/ml aged 16–34, p<0.001; 0.17 ng/ml to 0.11 ng/ml aged 35–64, p<0.001; and 0.17 ng/ml to 0.14 ng/ml aged 65+, p = 0.001. Similar, significant falls occurred in all three NS-SEC groups.

Conclusion: The legislation has been successful in its primary aim, to reduce the exposure of non-smokers to tobacco smoke pollution. It has decreased absolute inequalities.

Objective: To examine the effect of body mass index (BMI) on weight change over 8 years in a cohort of continuing smokers and a cohort that quit and remained abstinent.

Design: 8 year prospective cohort study.

Data Source: Participants smoking >15 cigarettes daily enrolled in a clinical trial of nicotine patch or placebo in Oxfordshire general practices and were reviewed 8 years later.

Population: 832 male and female participants. Abstainers were 85 participants who were biochemically proven abstinent at 3, 6, 12 months and 8 years. 613 people were smoking at each follow-up, 26 relapsed and 116 quit after 1 year.

Statistical Methods: Means, SDs, and 95% CIs were calculated for change in weight by smoking status. Linear regression analysis, using baseline BMI as an effect modifier, was used to investigate whether the effect of smoking status on weight change was dependent on baseline BMI in smokers and continuous abstainers. Modelling proceeded with separate regression equations for smokers and abstainers. Confounding variables were adjusted for.

Results: Abstainers gained 8.79 kg (SD 6.36, 95% CI 7.42 to 10.17). Smokers gained 2.24 kg (6.65, 95% CI 1.7 to 2.77). Relapsers gained 3.29 kg (7.16, 95% CI 0.329 to 6.24). Later abasters gained 8.53 kg (8.04, 95% CI 6.85 to 9.81). The difference in weight gain (6.56 kg, 95% CI 5.05 to 8.06, p<0.001) between abasters and smokers was modified by baseline BMI. In abasters a positive quadratic relationship of BMI fit best, resulting in a J-shaped curve. In persistent smokers there was a negative linear relationship of BMI (p<0.001). The model predicted that abasters with a baseline BMI of 18 would gain 6 kg, with a BMI of 23 gain 5 kg, and with a BMI of 33 gain 14 kg more than would have been the case had they continued smoking for eight years.

Conclusions: Obese smokers who continue smoking are likely to not change or lose weight over eight years while obese people who quit are likely to gain the most weight. Weight gain is not as harmful as continuing smoking, but weight gain prevention interventions for obese people trying to stop smoking are needed.