

The partial smoking ban in licensed establishments and health inequalities in England: modelling study

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The UK government's white paper *Choosing Health* proposes prohibiting smoking in enclosed public places in England, but exempts public houses (pubs) not serving catered food and licensed establishments that require membership.¹ However, passive inhalation of smoke at work may cause 600 deaths per year in the United Kingdom and increase morbidity and mortality among bar workers.² Furthermore, people attempting to quit smoking find that socialising with other smokers makes quitting difficult, and lapses in quitting are more likely in premises where smoking is permitted.³

Concerns exist that exempt establishments are located primarily in deprived areas with the highest smoking prevalence and that a partial ban worsens health inequalities.⁴ We examined if exempt establishments were located predominantly in deprived areas in the Borough of Telford and Wrekin.

Methods and results

We determined the catering status of pubs from regularly updated records of local authority licensing and environmental health. These allowed us to identify premises preparing catered food, those serving manufactured snacks, and those not serving food. *Choosing Health* proposes prohibiting smoking only in pubs serving catered food; all others can be exempt. All licensed members' clubs may choose exemption, which we assumed for this study.

Postcode mapping of establishments to each super-output area allowed extraction of scores on the index of multiple deprivation scores by using the software MapInfo, version 8.0 (MapInfo Limited, Windsor, UK). The super-output area is a contiguous aggregate of census output areas containing some 1500 people.

We used logistic regression to examine the relation between the proportion of exempt premises and deprivation score for

pubs and licensed members' establishments in Telford and Wrekin borough. With the regression coefficients generated, we used median deprivation scores for each English fifth to estimate the probability of a typical English establishment being exempt.

Out of 174 pubs in the borough, 99 (57%) served catered food. Hence, 75 (43%) would be exempt from smoking prohibition. Including all licensed members' establishments in the model showed that 127 (56%) would be exempt. The model predicted that two thirds of English pubs in deprived areas would be exempt, whereas only a quarter would be exempt in affluent areas. Including members' clubs in the model showed that two fifths of establishments in affluent areas and four fifths of establishments in deprived areas would be exempt (table 1). A significant linear trend between deprivation and probability of exemption existed in all analyses.

Comment

Prohibiting smoking only in pubs that serve catered food and allowing exemptions for other licensed drinking establishments may worsen health inequalities. *Choosing Health* estimates that only 10-30% of pubs could be smoking (p100), but our data indicate that the proportion of exempt pubs is higher (43%). This is a small study in one borough, so care must be taken extrapolating the findings. However, Telford and Wrekin is similar to England in terms of demographics and socioeconomic profile. Higher exemption rates were also observed in a survey of 29 local authorities, but no data on deprivation were obtained.⁵ Our results show that people in deprived areas are more likely to live near licensed establishments exempt from legislation to protect them against smoking. It is possible that people from deprived



A statistical appendix is on bmj.com

Table 1 Modelled and observed percentage of pubs and all licensed establishments exempt from the smoking ban proposed by *Choosing Health* by socioeconomic status of an area

Fifth of multiple deprivation index 2004	Median super-output area score	Predicted % (95% CI) in England		Observed % (95% CI) in Telford and Wrekin	
		Pubs*	Pubs, nightclubs, or licensed establishments requiring membership†	Pubs‡	Pubs, nightclubs, or licensed establishments requiring membership§
1 (least deprived)	5.74	26.9 (23.7 to 29.8)	39.3 (35.6 to 43.1)	31 (9 to 61)	47 (23 to 72)
2	10.96	31.7 (25.2 to 38.0)	44.7 (37.5 to 52.2)	21 (10 to 35)	30 (18 to 45)
3	17.02	37.9 (27.0 to 48.5)	51.2 (39.7 to 62.6)	56 (38 to 73)	67 (52 to 80)
4	26.61	48.4 (30.0 to 64.9)	61.3 (43.3 to 76.7)	51 (38 to 64)	63 (52 to 73)
5 (most deprived)	45.22	68.5 (36.4 to 87.3)	77.9 (50.5 to 92.4)	55 (32 to 77)	69 (49 to 85)

* χ^2 test for trend 9.10, df=1, P=0.003.

† χ^2 test for trend 10.73, df=1, P<0.001.

‡ χ^2 test for trend 9.44, df=1, P=0.002.

§ χ^2 test for trend 11.93, df=1, P<0.001.

What is already known on this topic

Passive smoking is a serious risk to health

Smoking in public places is banned completely in many countries, but the current proposals for England will allow for some establishments licensed to sell alcohol to be exempt from a smoking ban

What this study adds

Most licensed establishments in the poorest areas would be exempt from the workplace ban on smoking, while most in the more affluent areas would be subject to the ban. This is likely to worsen socioeconomic inequalities in health and smoking prevalence.

neighbourhoods may visit establishments in affluent areas, whereas those living in affluent neighbourhoods make the reverse journey. It is more likely that the poorest people with the worst health and highest smoking prevalence would be those most likely to be harmed by passive smoking either working in pubs or as customers, and would be those most likely to have their attempt to stop smoking undermined. We urge the UK government to ban smoking in all enclosed public places, similar to the ban proposed in Scotland and enacted in Ireland, to prevent worsening health inequalities.

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- 1 Department of Health. *Choosing health: making healthy choices easier*. London: Stationery Office, 2004.
- 2 Jamrozik K. Estimate of deaths attributable to passive smoking among UK adults: database analysis *BMJ* 2005;330:812.
- 3 Wiltshire S, Bancroft A, Parry O, Amos A. "I came back here and started smoking again": perceptions and experiences of quitting among disadvantaged smokers *Health Educ Res* 2003;18:292-303.
- 4 Raine R, Walt G, Basnett I. The white paper on public health *BMJ* 2004;329:1247.
- 5 British Medical Association. *Booze, fags and food*. London: BMA 2005. www.bma.org.uk/ap.nsf/Content/boozefagsandfood (accessed 22 Jun 2005).

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