

# Secondhand Smoke Exposure in Cars And Homes is Associated with Susceptibility to Smoking in 14-15 Year Old Children:

Repeated national survey data

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## Background

Exposure to secondhand smoke (SHS) causes adverse health outcomes for children and adolescents, and is implicated in increased risk of smoking initiation. Important potential sources of children's exposure to SHS include smoking in homes and in private cars.

## Aim

To explore the association between exposure to SHS in cars and homes, and smoking susceptibility and smoking among 14-15 year old children in a country with a national smokefree goal (New Zealand).

## Methods

We analysed data from a school-based national survey of New Zealand's (NZ) Year 10 students from 2006-2012 (the ASH Year 10 surveys). Participants were asked whether, in the past week, others had smoked around them in a car or van or in the home. Students who reported exposure on at least one day in the past week were classified as exposed to SHS.

We ran separate multivariable logistic regression analyses to assess the association between SHS exposure in cars and homes, and smoking behaviours. In these analyses, we investigated determinants of: (i) current regular smoking (smoking at least monthly) among all students (ii) any current smoking (less than once a month or more frequently) among all students (iii) ever smoking among all students, (iv) daily smoking among all current smokers; (v) ever smoking among students not currently smoking, and (vi) susceptibility to smoking among never smokers. All models were adjusted for age, sex, ethnicity, socio-economic status, and parental, sibling and friend smoking.

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## Results

In 2012 a total of 28,847 students participated in the survey (response rate 48%). Table 1 shows the association of exposure to SHS in cars and in homes with smoking susceptibility and smoking behaviours.

Table 1 Association between exposure to SHS in homes and cars and smoking-related behaviours (adjusted odds ratios [aOR])# in 2012 survey

	SHS exposure in home (95% CI)	SHS exposure in cars (95% CI)
Association with current regular smoking among all subjects	2.6 (2.1-3.1)	1.9 (1.7-2.2)
Association with current smoking among all subjects	2.0 (1.7-2.4)	2.0 (1.8-2.2)
Association with ever smoking among all subjects	1.8 (1.7-2.0)	1.8 (1.6-2.0)
Association with daily smoking among all current smokers	1.8 (1.4-2.4)	1.4 (1.1-1.7)
Association with ever smoking among non-current smokers	1.6 (1.4-1.8)	1.5 (1.4-1.7)
Association with smoking susceptibility among never smokers	1.2 (1.1-1.4)	1.4 (1.3-1.6)

#Adjusted for age, sex, ethnicity, socio-economic status, and parental, sibling and friend smoking

In all analyses SHS exposure in the home and cars was associated to a similar degree with smoking susceptibility or ever, current or daily smoking.

Each of the surveys between 2006 and 2012 showed similar patterns. Figure 1 shows the adjusted associations between SHS exposure in the two settings and smoking susceptibility and current regular smoking between 2006 and 2012.

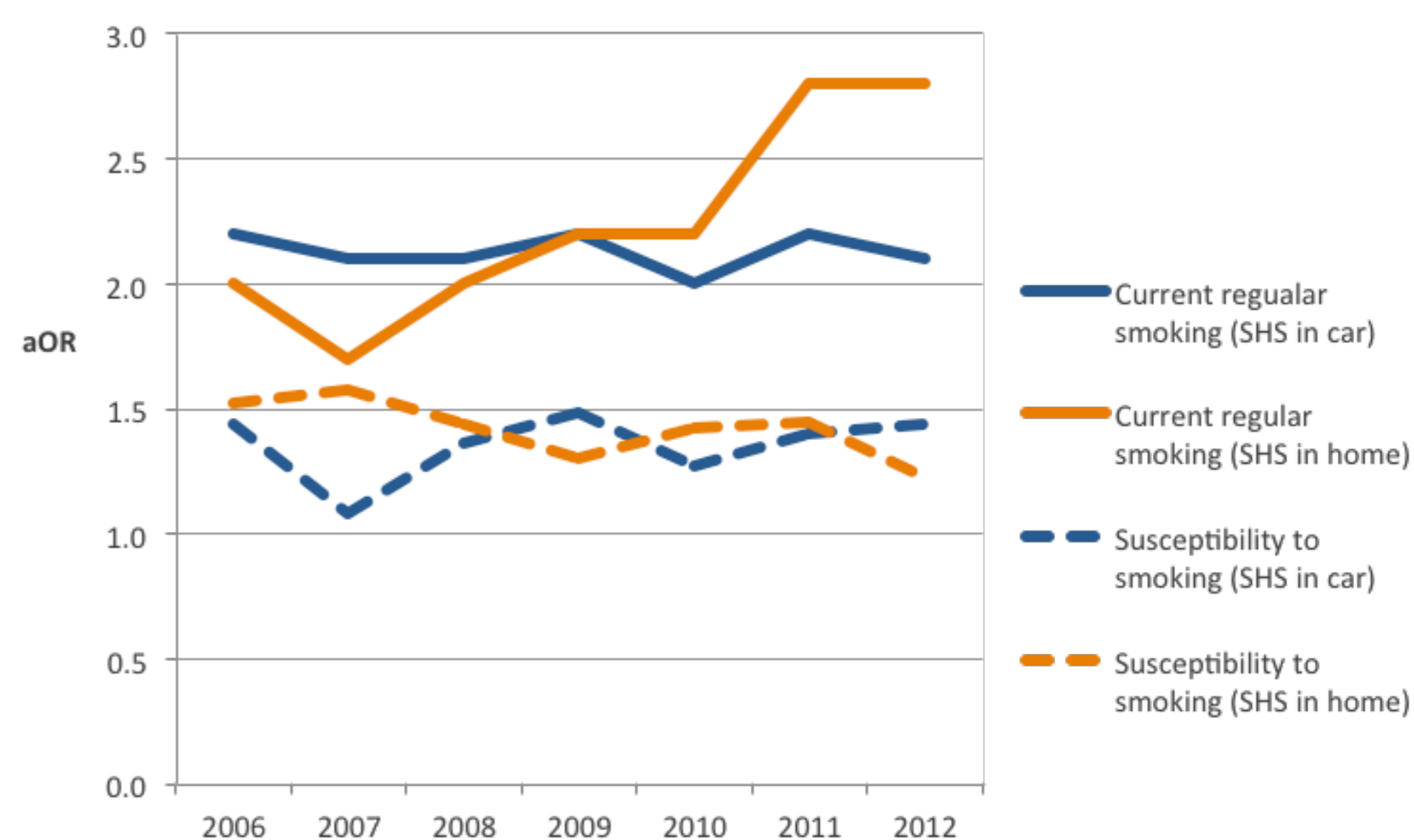


Figure 1: Associations (adjusted ORs) of SHS exposure in cars and home with daily smoking (among all subjects) and susceptibility to smoking (among never smokers), 2006-2012

## Conclusions

Exposure to SHS and smoking in cars and homes appear to be important risk factors for smoking initiation in New Zealand children. The findings suggest that effective policies to increase smokefree homes and vehicles will not only will protect the health of children by minimising their exposure to SHS, but may also reduce smoking initiation.

The most effective intervention to reduce this exposure is likely to be legislation to prohibit smoking in cars containing children. Other possible interventions include media campaigns and new pictorial warnings on tobacco packaging about the hazards of SHS and need to protect children in these settings. Further denormalisation of smoking, and hence reductions in SHS exposure of children, could be achieved by interventions to reduce the portrayal of smoking in the media and movies and increased outdoor smokefree policies.

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