

Cancer and Other Serious Harms from Second-Hand Smoke: A Cancer Society Fact Sheet



Key points:

- Second-hand smoke (SHS) causes cancer and has no known safe level.
- Breathing in SHS causes lung cancer, nasal sinus cancer, respiratory tract infections, and heart disease.
- In New Zealand the harms from SHS are worse for those populations with the greatest exposure to SHS (i.e. low income citizens and Māori).
- New Zealand has made relatively good progress in protecting its people from SHS by using media campaigns and having smokefree laws.
- There are still opportunities to protect children and adults from SHS in homes, cars and some outdoor settings.

What is second-hand smoke?

SHS is the combination of smoke arising from the burning end of a cigarette, cigar, or pipe (sidestream smoke) and smoke breathed out by the smoker (mainstream smoke). Sidestream smoke makes up about half of all SHS.¹⁻⁴

Exposure to SHS is also called “passive smoking”, “involuntary smoking”, exposure to “tobacco smoke pollution” or exposure to “environmental tobacco smoke”.

A chemical cocktail

Of the more than 4000 chemicals identified in SHS³, at least 60 are cancer-causing (e.g. formaldehyde). Six other chemicals harm normal cell development (e.g. nicotine and carbon monoxide do such harm.^{2, 4} SHS has been

classified as carcinogenic (cancer causing) for over 10 years.⁵ Other health agencies have since classified SHS as proven to be cancer causing, including the International Agency for Research on Cancer.¹ None of these agencies have found an amount of exposure to SHS that can be considered “safe” – that is all levels are considered unsafe.

Cancers linked to SHS exposure

SHS exposure is a cause of lung cancer.^{1-3, 5, 6} It is also linked to nasal sinus cancer.^{2, 3} There is also some evidence for a link with cancers of the cervix, breast, and bladder – but more research is needed in order to confirm these links.^{1, 2} Recent evidence also suggests the SHS is a risk factor for a blood cancer (leukaemia).⁷

Other evidence of harm to health from SHS exposure

The world’s two largest studies of SHS on people have been in New Zealand.⁸ Together these found that there was a 15% increased risk of death in “never smokers” exposed to SHS at home (compared to “never smokers” not exposed to SHS at home). SHS is also associated with the following health problems:

- Cardiovascular disease: severe and chronic heart disease;^{2, 9-11} and stroke – with evidence for stroke coming from a New Zealand study.¹²
- Respiratory system harm: severe lower respiratory tract infections (e.g. bronchitis or pneumonia) in children;^{2, 5, 6} more severe asthma, and increased chance of developing asthma in children;⁵ chronic coughing, phlegm, and wheezing;^{2, 5, 6} chest discomfort²; and lowered lung function.^{2, 5, 6}

- Harm to infants and children: sudden infant death syndrome (SIDS or cot death)²; middle ear infections in children (glue ear)^{2, 5}; and low birth weight or small size at birth for babies of women exposed to SHS during pregnancy.²
- Other harm: eye and nose irritation.² More research is needed to see if SHS is linked to: miscarriage; harm to brain function and behaviour in children; and worsening of cystic fibrosis.²

Before the new smokefree law, SHS caused over 300 deaths a year in New Zealand. Of these deaths, around 100 were from workplace exposure to SHS.¹³ In New Zealand the harms from SHS are worse for those populations with the greatest exposure to SHS (i.e. low income citizens and Māori).^{14, 15}

What works to protect non-smokers from SHS?

The most effective way to reduce SHS exposure is for national and/or local governments to have smokefree laws for workplaces and indoor public places.¹⁶⁻¹⁸ There is also evidence that comprehensive tobacco control programmes help raise the proportion of smokefree homes.¹⁹

Mass media campaigns to inform the public of the risks of SHS also have benefits for reducing SHS exposure to children and support making homes smokefree.¹⁹ New Zealand data show that media campaigns on SHS also trigger calls to the Quitline.²⁰ Laws against smoking in cars with children in them have not yet been evaluated (e.g. the new law in Puerto Rico²¹). But it is likely that such laws would help raise public awareness of the hazard from SHS, and also make smoking seem “less normal”.

The tobacco industry and its business allies generally oppose laws for smokefree places – including those in New Zealand.²² Instead they argue for measures which are ineffective at eliminating the risks of SHS. These include separating smokers and non-smokers within

the same indoor air space and relying on ventilation.

What is being done in New Zealand to protect non-smokers?

Since 1990 New Zealand has had national laws for some public smokefree settings. These laws were extended so that all pubs, clubs, restaurants, workplaces and schools became smokefree in December 2004. Studies of this new law show it is working well.²³⁻²⁵

Other initiatives include those by local authorities to make smokefree all council-owned facilities (e.g. swimming pools) and to actively discourage smoking in parks and playgrounds with signage (eg, the South Taranaki Council and the Upper Hutt City Council). Such initiatives are being promoted by the Cancer Society which has also described the successful actions by local councils in Australia and the United States.²⁶ Māori health providers, often in partnership with public health and local iwi communities, are also working towards smokefree marae, cars and homes.

Media campaigns on SHS have been used to help “take the smoke outside”, and the proportion of smokefree homes has been increasing.²⁷ A recent survey found that 74% of New Zealand homes are now smokefree.¹⁴ But 47% of current smokers still smoke indoors at home¹⁴ and the public understanding of the health hazards of SHS may be superficial.²⁸ Most New Zealand smokers still smoke in their cars (71%)¹⁴ and smoking in cars where other people are present is also common.²⁹ This problem has yet to be resolved in the New Zealand setting (e.g. through more media campaigns or through laws).

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