



## Why all workplaces should be smoke free

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The Health Select Committee has recently finished hearing submissions on the Smoke-free Environments (Enhanced Protection) Amendment Bill. At stake (among other issues) is whether the current provisions of the Smoke-free Environments Act should be extended to make all workplaces smoke free. The Committee will shortly release its report, and this is likely to be followed by debate both in the House, and more widely, about the arguments for and against comprehensive restrictions on smoking at work.

The strongest case for extending the current legislation is made on health grounds. Since the original Act was passed in 1990, we have learnt a great deal more about second-hand smoke (SHS) and its effects in the workplace.<sup>1</sup> First, measures of exposure have improved, and as a result it is possible to demonstrate a close association between restrictions on smoking at work and the dose of smoke products received by employees. For instance, among New Zealand workers in the hospitality industry there is a relationship between the absence of smoke-free provisions and levels of cotinine in saliva<sup>2</sup> and nicotine in hair.<sup>3</sup>

Second, in the last ten years a number of epidemiological studies have investigated the effects of SHS exposures at work. The data are still relatively sparse compared with those reported from studies of domestic exposures, but there is evidence of independent, strong effects for workplace SHS and chronic conditions such as lung cancer<sup>4</sup> and long-standing respiratory symptoms.<sup>5</sup> Other studies have associated SHS at work with acute coronary events<sup>6</sup> and impaired lung function,<sup>7</sup> and there are links also with acute respiratory symptoms of wheeze and cough.<sup>2</sup> This is very much consistent with what is known about the risks of SHS in the home, which as one would expect is due to the toxic substances being the same in both settings.

Third, the epidemiology is now supplemented by research that delineates likely mechanisms of action of SHS. This includes work on the acute effects of SHS on the vascular system,<sup>8</sup> as well as specific mutational profiles of smoke-induced cancers.<sup>9</sup>

How much illness is caused by exposure to SHS at work is difficult to determine. Uncertainties include not only the imprecision of existing data on exposure to SHS nationwide, but also ignorance of the duration of effect of exposures at work. This is an important factor, as rates of heart disease and stroke, two of the most serious conditions associated with SHS, rise steeply with age around the time of retirement. But best estimates suggest that the burden of disease due to occupational SHS is certainly not trivial – about 100 deaths per year.<sup>10</sup>

Given that SHS is a health risk, a case for extending the legislation can be made on the basis of equity. The present legislation does not benefit all workers equally; office workers are protected, but not blue-collar workers. Maori and Pacific workers, and people on low incomes are all less likely to be protected under the Act as it stands.

Consideration of effectiveness also favours comprehensive legislation. Partial bans on smoking at work are complicated, difficult to enforce, and it has been shown that they fail to protect workers from exposures to smoke. Enhanced ventilation is expensive and is most unlikely to move enough air sufficiently quickly to prevent workers being adversely affected. Comprehensive bans on smoking at work are effective, as shown by studies of atmospheric monitoring<sup>11</sup> and personal biomarkers,<sup>3</sup> and have the support of the majority of the public.<sup>1</sup>

Overseas, the prospect of litigation is a factor in moving public opinion towards smoke-free conditions in all workplaces. The New South Wales Supreme Court recently found in favour of a former bar worker who claimed that she developed cancer of the larynx as a result of her exposure to SHS at work.<sup>12</sup> Interestingly, this decision was based on both the (limited) epidemiology of passive smoking and cancer of the throat, and on laboratory evidence that tobacco products play a distinct role in carcinogenesis. In the past, attribution of particular diseases to SHS has depended on epidemiological studies of those specific conditions. If mechanistic evidence is given greater weight in legal cases of this kind, it may be that a wider range of cases will come to the courts, encompassing other diseases known to be caused by active smoking but not closely studied in relation to SHS.

There are other considerations that are relevant to smoking bans at work, such as the economic costs of fire risk, damage to furniture, and cleaning. From a public health perspective, the most important incidental effect is the reduction in tobacco consumption that has been observed to follow restrictions on smoking at work.<sup>11</sup>

Health risks, equity, effectiveness and economics constitute a very strong case for making all workplaces smoke free. Nevertheless, it is important to remember that this legislation provides only one aspect of tobacco control. There are other steps that need to be taken at the same time. They include education about the reasons for smoke-free provisions, appropriate enforcement of the legislation and provision of accessible and culturally appropriate cessation services for smokers who want to quit.

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