

The Smoke is Clearing

Anniversary Report 2005

**Initial Data on the Impact of the Smoke-free
Environments Law Change Since 10 December 2004**

Citation: Ministry of Health. 2005. *The Smoke is Clearing: Anniversary Report 2005*.
Wellington: Ministry of Health.

Published in December 2005 by the
Ministry of Health
PO Box 5013, Wellington, New Zealand

ISBN 0-478-29906-0 (Book)
ISBN 0-478-29907-9 (Internet)
HP 4210

This document is available on the Ministry of Health webpage:
<http://www.smokefreelaw.co.nz>
or <http://www.moh.govt.nz/publications>



Foreword

Exposure to second-hand smoke is the leading environmental cause of death in New Zealand, and the death toll from exposure to second-hand smoke is estimated to be almost as high as the annual road death toll. Workers in non-office environments have remained particularly vulnerable to second-hand smoke exposure since the Smoke-free Environments Act 1990 came into effect.

Accordingly, the Smoke-free Environment Amendment Act 2003 (the Amendment) is an important piece of public health legislation in protecting the health of workers and non-smokers and preventing a number of lives being lost to passive smoking.

The Ministry of Health has been the leading agency responsible for implementing and evaluating the impacts and changes of second-hand smoke exposure since the main Amendment provisions came into effect on 10 December 2004.

This anniversary report aims to provide decision-makers, health providers, workplace employers, overseas jurisdictions and the general public with a summary of the information collected to date about changes in second-hand smoke exposure since the Amendment came into effect. A full update of this report will be produced in 2006, when more information is available.

I welcome the findings of this report, which overall show positive indications in terms of public opinion and reported levels of second-hand smoke exposure in workplaces since the Amendment came into effect. Such changes will save lives and reduce the negative health, economic and social impacts of tobacco smoke on New Zealand society.

If the trends suggested in this report continue, we will witness one of the most significant advances in public health in New Zealand in recent times.



Dr Don Matheson
Deputy Director-General, Public Health

Acknowledgements

The Ministry of Health wishes to thank the Health Sponsorship Council, Quit Group, ASH, Smokefree Coalition and Te Reo Marama (Māori Smokefree Coalition) for reviewing this report.

Notes on the Report

This report summarises some of the impacts of the first nine months of the Smoke-free Environments Amendment Act 2003, which came into effect on 10 December 2004, on exposure to second-hand smoke.

It summarises some initial data from several evaluation projects the Ministry of Health (the Ministry) but is not intended to represent a formal research or evaluation report. For specific methodologies and more detailed information, refer to the reports cited, which are available at <http://www.smokefreelaw.co.nz>

Report Title

The title of this report alludes to *Clearing the Smoke*, the Ministry's five-year strategic plan for tobacco control, which includes reducing exposure to second-hand smoke for all New Zealanders as one of its four key goals (Ministry of Health 2004).

The 'Amendment' referred to in this report relates to the workplace and licensed premise provisions in the Smoke-free Environments Amendment Act 2003, which amended the Smoke-free Environments Act 1990 and came into effect on 10 December 2004. The Smoke-free Environments Amendment Act 2003 also includes a range of provisions not addressed in this report.

Smoke-free

For the purposes of this report, 'smoke-free' refers to the Amendment's smoking ban in any indoor ('substantially enclosed') area of a workplace, licensed premise and certain other public areas and vehicles.

Information sources

Unless stated otherwise, the key sources of information summarised in this report are identified in a box at the beginning of each section. A full reference list is included at the end of this report.

Anniversary evaluation report 2006

A full anniversary evaluation report will be published in 2006, when all the 12-month data to 10 December 2005 have been analysed.

NGO report

A group of smoke-free non-governmental organisations have produced a complementary anniversary report (Communique Limited, 2005), which is available from 9 December 2005 at <http://www.asthmanz.co.nz>

Contents

Foreword	iii
Acknowledgements	iv
Notes on the Report.....	iv
Executive Summary.....	vii
Main findings	vii
Introduction.....	1
Key Amendment provisions	1
Rationale for smoke-free environments legislation.....	1
Negative health effects of second-hand smoke	1
Evidence of Second-hand Smoke Exposure	2
Second-hand smoke exposure in workplaces 1989–2001	2
Findings of national cotinine bar study (2004) pre-Amendment	3
Changes since the 2004 Amendment.....	5
Public support for smoke-free environments legislation	5
Second-hand smoke exposure in workplaces.....	6
Hospitality Venues	8
Public approval for smoke-free restaurants and bars.....	8
Smoking behaviour and patronage trends in hospitality venues.....	8
Economic Impact on Hospitality Venues	10
Retail Trade Survey (Statistics New Zealand data)	10
New Zealand Bar Managers’ Perceptions of Economic Impact.....	12
Findings from a cohort of New Zealand bar managers	12
Compliance with the Smoke-free Environments Legislation	14
Findings from the national complaints database.....	14
Downstream Impacts on Smoking-related Behaviour.....	15
Second-hand smoke exposure in homes	15
Smoking consumption.....	15
Quitline callers	16

Conclusion	17
Further Information.....	18
Enquiries.....	18
Disclaimer.....	18
References.....	19

Figures

Figure 1: Saliva cotinine increases after 3 hours in a bar, by region and season	3
Figure 2: Agreed with right to work in environments free of tobacco smoke (%), 2003–2005.....	5
Figure 3: Exposure to second-hand smoke in indoor workplace settings (%), 2003–2005.....	6
Figure 4: Patronage in bars among smokers and non-smokers, 2003–2005.....	8
Figure 5: Trends in revenue of main hospitality industries, Jan 1999–July 2005.....	10
Figure 6: Total number of cigarette equivalents released per adult (15+ years), 2000–2005 (quarterly)	16

Table

Table 1: Main shifts in bar managers' attitudes, November 2004–May 2005	13
---	----

Executive Summary

Since 10 December 2004, the Amendment has required virtually all indoor workplaces, including hospitality venues, to be 100 percent smoke-free.

This report summarises the information to date on the impact of the Amendment in the first nine months of implementation, from 10 December 2004 to 30 September 2005.

Main findings

- **Public approval:** Over 90 percent of the public support workers' rights to work in an environment free of second-hand smoke, including in bars and restaurants.
- There have been relatively few complaints about smoking in prohibited places (less than 350) and no workplace prosecutions since the Amendment came into force.
- **Second-hand smoke exposure levels:** Before the Amendment came into effect, a national study of second-hand smoke exposure in bars across New Zealand confirmed that, even in 'seemingly smoke-free' bars, patrons were exposed to detectable levels of second-hand smoke.
- The Amendment has been effective in increasing the number of smoke-free indoor workplaces to 91 percent, potentially saving about 100 lives per year. However, some workers, particularly smokers and Māori, report ongoing second-hand smoke exposure in their indoor workplaces.
- **Economic impact:** Consistent with international studies, available information suggests there has been a neutral to positive impact on revenues for hospitality venues since they have been required to be 100 percent smoke-free indoors. Data show no negative trends for the main hospitality industries overall.
- Available information shows that patronage trends have increased for non-smokers (up from 33 percent to 49 percent for bars) and smokers have continued to visit bars at levels similar to those before the Amendment came into effect.
- **Downstream impacts on smoking-related behaviour:** Emerging evidence suggests possible downstream impacts of the Amendment, including less exposure to second-hand smoke in homes, a downward trend in cigarette consumption and an initial increase in calls to the national Quitline.

Introduction

Key Amendment provisions

The key provisions of the Amendment discussed in this report relate to:

- **smoke-free workplaces:** virtually all workplaces are now required to be 100 percent smoke-free indoors. This includes offices, factories, warehouses, work canteens, 'smoko' rooms, taxis, internal areas of trains and ships, prisons and travel premises.¹
- **smoke-free hospitality venues:** bars, clubs, restaurants, cafes, casinos and gaming machine venues are now required to be 100 percent smoke-free indoors if they are workplaces, serve alcohol or have a gambling venue licence.

Other changes brought about by the Smoke-free Environments Amendment Act 2003 not addressed in this report include: requiring all schools and early childhood centres to be totally smoke-free, further restricting tobacco display and sales and under-18-year-old access to tobacco or herbal smoking products, and providing for future regulations to impose stronger regulations for smoking product information and warnings.

Rationale for smoke-free environments legislation

An important aim of the Smoke-free Environments Act 1990 was to reduce the exposure of non-smokers, particularly workers, to second-hand smoke. The Amendment that came into force on 10 December 2004 expands the legal protections from second-hand smoke exposure for all workers, including those in non-office environments such as factories and hospitality venues.

Negative health effects of second-hand smoke

Before the Amendment, an estimated 388 non-smoking New Zealanders died each year as a result of exposure to second-hand smoke, and many others became sick (Woodward and Laugesen 2001a, b and c). Exposure to second-hand smoke is the leading environmental cause of death in this country, and the death toll from exposure to second-hand smoke is almost as high as the annual road death toll.

Second-hand smoke contains a lethal mix of more than 4000 chemicals, including ingredients used in paint strippers, moth balls, toilet cleaners, car batteries and car exhausts. Second-hand smoke is known to cause cancer and has been linked to the development of heart disease, stroke and respiratory illnesses such as asthma.

¹ Limited exceptions apply for some work vehicles and home-like environments, such as individual prison cells, rest homes, hotel rooms and residential care facilities. Full details of the exceptions to smoke-free workplaces are available at <http://www.smoke-free.co.nz>

Evidence of Second-hand Smoke Exposure

In 2000, a New Zealand study estimated that about 100 lives could be saved each year by protecting *all* workers from exposure to second-hand smoke in their indoor workplace (Woodward and Laugesen 2001a, b and c).

By banning smoking in virtually any indoor workplace after 10 December 2004, it was hoped that second-hand smoke exposure in indoor workplaces would drop to negligible levels, as has been the case in California (93 percent of indoor workplaces are smoke-free) (California Department of Health Services, Tobacco Control Section 2002b) and Ireland (96 percent of indoor workplaces are smoke-free) (Irish Office of Tobacco Control 2005) since their law changes; and as a result, lives will be saved.

Second-hand smoke exposure in workplaces 1989–2001

The Smoke-free Environments Act 1990 (the Act) came into effect in December 1990. Between 1990 and 10 December 2004, the Act banned smoking in office areas, workplaces to which the public normally had access and ‘common air space’ areas. Smoking was allowed in areas where employees agreed smoking would be permitted and designated areas of work lunchrooms (National Research Bureau 2001).

Previous surveys by the National Research Bureau found that levels of reported second-hand smoke exposure during work hours declined from 31 percent in 1989 to 21 percent when the Act came into effect in 1991 (National Research Bureau 2001). Further reductions in second-hand smoke exposure have been modest since 1991.

During the 1990s, exposure to second-hand smoke was greatest during tea and lunch breaks (36 percent and 39 percent, respectively), with blue-collar workers recording greater exposure during breaks (49 percent and 50 percent) than white-collar workers (27 percent and 28 percent). Other groups most exposed to second-hand smoke at work (during breaks) during this decade included smokers (63–65 percent), Māori and Pacific peoples (over 50 percent) and young people in the 15–24 years age group (51 percent).

Findings of national cotinine bar study (2004) pre-Amendment

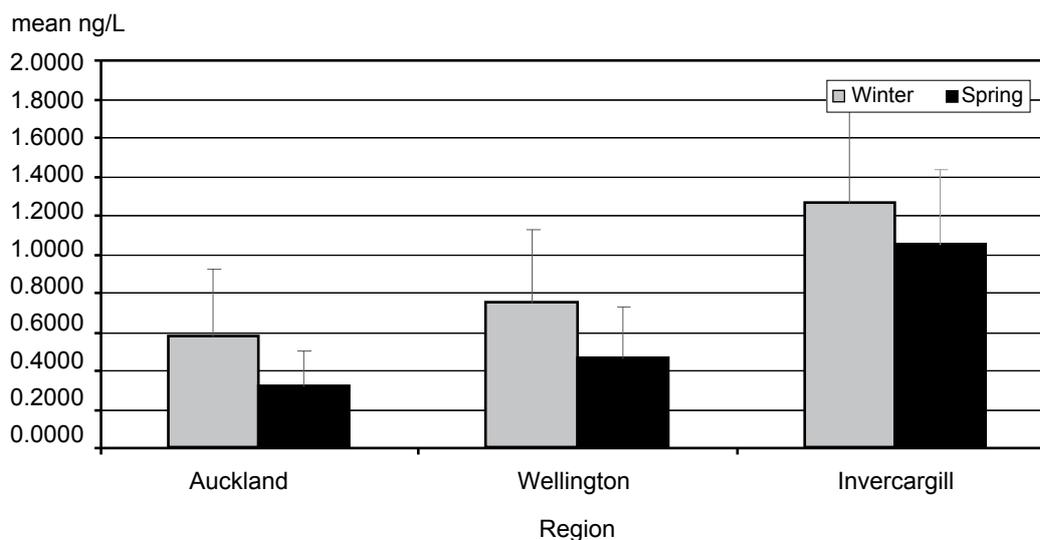
The following section summarises the main, pre-Amendment findings from a national study of second-hand smoke exposure in New Zealand bars conducted in 2005 by Fowles et al. A full copy is available at <http://www.smokefreelaw.co.nz>

The methodology involved taking saliva samples from volunteer patrons of randomly selected bars in and around Auckland, Wellington and Invercargill to establish before and after levels of second-hand smoke exposure in the form of cotinine, the major metabolite in nicotine. The group of four to five non-smokers participating in the study visited 30 urban, suburban or rural bars for three hours at a time.

The study is being repeated during the winter and spring of 2005 to measure levels of second-hand smoke exposure after the Amendment took effect. Theoretically the post-Amendment results could show negligible levels of second-hand smoke exposure. A report of the post-Amendment results will be available in 2006.

- All bars and all volunteers showed evidence of second-hand smoke exposure, with an eight-fold variation across bars in different regions. Cotinine, the major metabolite in nicotine, was used to measure second-hand smoke exposure.
- Second-hand smoke exposure was more likely during winter than spring and the further south the bar was located in New Zealand. In Invercargill, as many as 60 patrons' lit cigarettes from a total of 100 patrons were counted at one time.

Figure 1: Saliva cotinine increases after 3 hours in a bar, by region and season



Note: Standard errors are represented by error bars.

- Overall, the non-smoking patrons' cotinine levels after a three-hour bar visit were about the same as for someone who lives with a smoker. The world's largest cohort study examining the effects of second-hand smoke exposure on mortality showed a 15 percent increased mortality rate for never-smoking adults who live with smokers (Hill et al 2004).
- **Impact greater for bar workers:** Results underestimated actual second-hand smoke exposure levels because salivary levels of cotinine peak 3–4 hours *after* leaving a bar. Bar workers are likely to experience far greater levels of second-hand smoke exposure (and related health effects) than patrons. For example, a British study found average exposure levels of bar staff to be significantly higher than the levels found for the patrons in this New Zealand study (9.28 ng/mL compared to 0.66 ng/mL) (Jarvis et al 1992).
- Even 'seemingly smoke-free' venues that participants observed as having 'good ventilation' produced discernable levels of second-hand smoke exposure. Accordingly, ventilation is *unlikely* to protect people from second-hand smoke exposure in hospitality venues, even if non-smoking patrons perceive the environment to be safe from cigarette smoke.

Further sections of the report

The following sections in this report summarise the changes since the Amendment came into effect, in the following areas:

1. Public support for smoke-free environments legislation
2. Second-hand smoke exposure in workplaces
3. Hospitality venues: public approval for smoke-free restaurants and bars, patronage trends and economic impact
4. Compliance with the legislation
5. Downstream impacts on smoking-related behaviours (smoke-free homes, consumption and quitting).

Changes since the 2004 Amendment

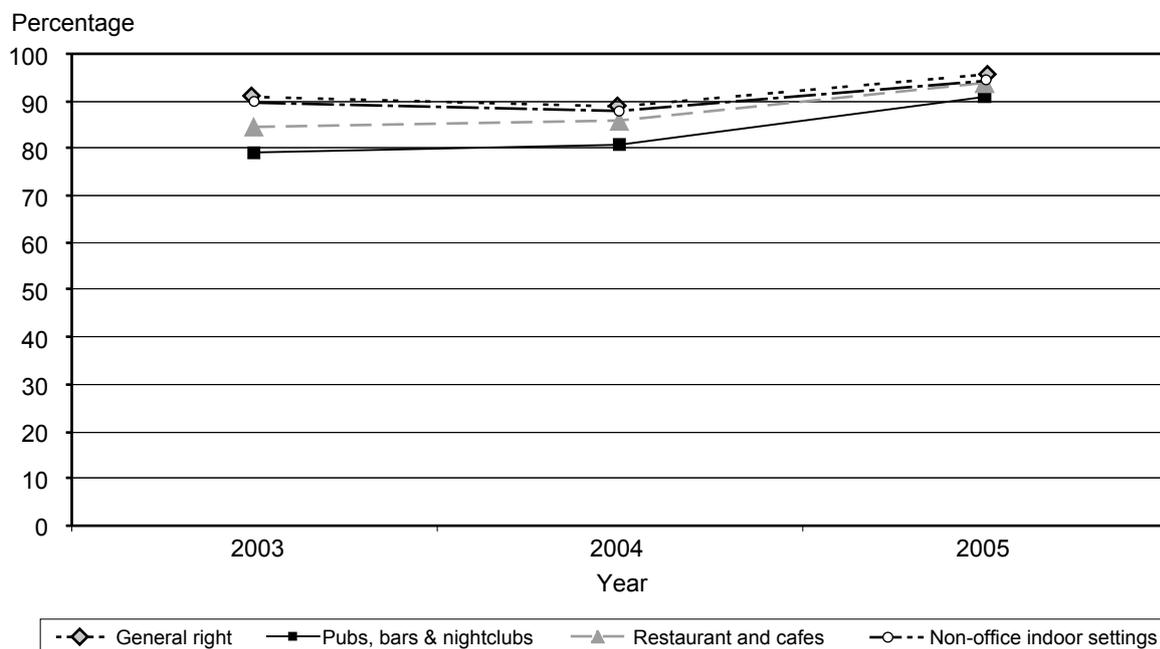
This section summarises the main findings from a report of a national survey's results for 2003–2005 conducted by Waa and Gillespie of the Health Sponsorship Council (Waa and Gillespie 2005). A full copy is available at <http://www.smokefreelaw.co.nz>

Waa and Gillespie's report analyses the results of a national phone survey conducted by TNS New Zealand and Gravitas in 2003, 2004 and 2005. The survey was based on two samples from people aged 15 years and over; one of the general population (n=1500) and the other of Māori (n=500–1000). Interviews were carried out using Computer Assisted Telephone Interviewing (CATI) and aimed to provide an equal representation of gender and, in 2005, age.

Public support for smoke-free environments legislation

- Public support for the right to work in an environment free of tobacco smoke increased from 91 percent in 2003 to 95 percent in 2005.

Figure 2: Agreed with right to work in environments free of tobacco smoke (%), 2003–2005



- Public support for pub, bar and nightclub workers to have the right to work in an environment free of tobacco smoke increased from 79 percent in 2003 to 91 percent in 2005.
- In 2005, 79 percent of the public also supported government laws that control what tobacco companies do.
- In 2005, 95 percent of the public disagreed that it is okay to smoke around children, and 83 percent disagreed that it is okay to smoke around non-smokers.
- Support for smoke-free bars has grown significantly, from less than 60 percent in 2001 to 90 percent in 2005.

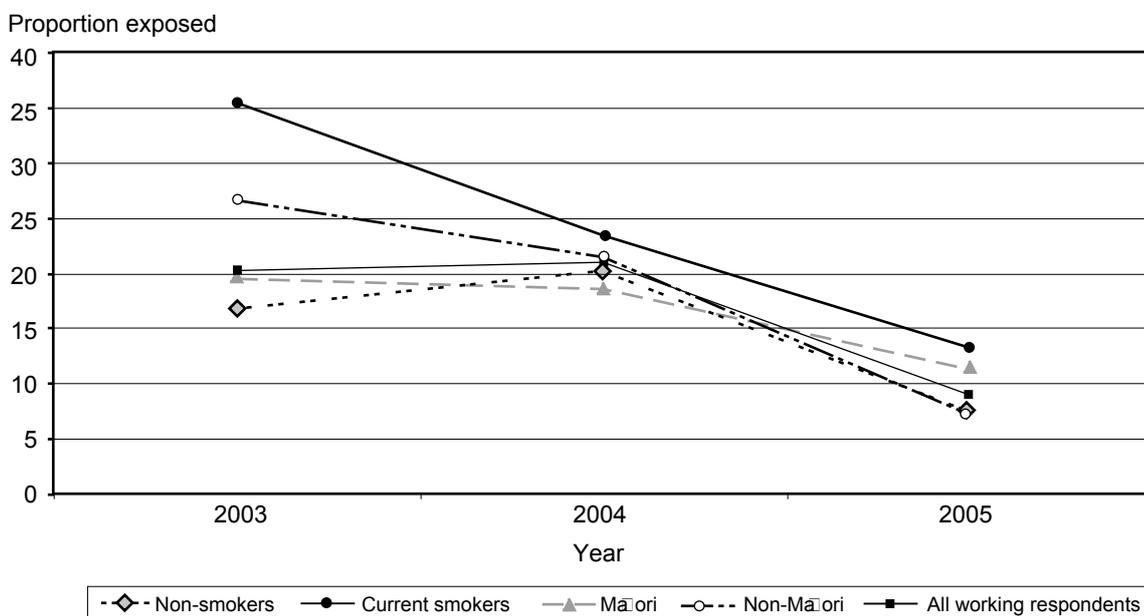
Second-hand smoke exposure in workplaces

This section also summarises survey results from Waa and Gillespie's 2005 report.

Initial findings indicate that the Amendment appears to be associated with reductions in second-hand smoke exposure.

Ninety-one percent of workers reported their workplaces are now smoke-free. Second-hand smoke exposure in indoor workplaces has reportedly halved since the Amendment came into effect, down from 20 percent in 2003 to 9 percent in 2005.²

Figure 3: Exposure to second-hand smoke in indoor workplace settings (%), 2003–2005



² The methodology and questions used in the survey analysed by Waa and Gillespie (2005) differ from those used in the National Research Bureau surveys, so any direct comparison of reported levels of second-hand smoke exposure should be avoided, or treated with caution. Also, the survey analysed by Waa and Gillespie was conducted only four months after the Amendment came into effect.

Smokers in particular reported less second-hand smoke exposure (smoke-free workplaces increasing from 65 percent in 2003 to 87 percent in 2005). However, smokers and Māori are over-represented in the 9 percent who reported ongoing second-hand smoke exposure in their indoor workplaces. This may be the result of exemptions in the Amendment for some indoor workplaces (eg, residential care facilities and contractor-only businesses working in homes), and gaps in implementing the law in some industries. Further investigation needs to be conducted into workplaces that continue to have second-hand smoke exposure in indoor settings.

Hospitality Venues

This section summarises further survey results from Waa and Gillespie's 2005 report.

Hospitality venues such as bars and restaurants are not just social venues, they are also workplaces for approximately 10,000 New Zealanders.

Public approval for smoke-free restaurants and bars

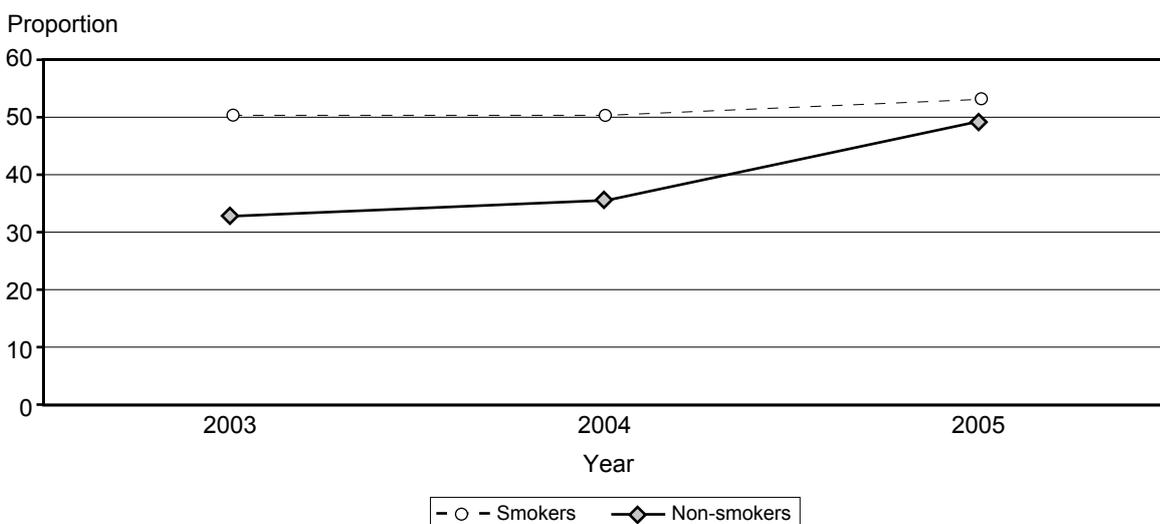
As mentioned above, public support for pub, bar and nightclub workers to have the right to work in an environment free of tobacco smoke increased from 79 percent in 2003 to 91 percent in 2005.

Overall approval for smoking bans in bars has increased since the Amendment came into effect in December 2004, from 62 percent in 2003 to 75 percent in 2005. Approval for smoking bans in restaurants increased, from 72 percent to 82 percent between 2004 and 2005. Views tend to be influenced by smoker status – in 2005, 82 percent of non-smokers supported smoking ban laws for bars compared to 55 percent of smokers.

Smoking behaviour and patronage trends in hospitality venues

Before the Amendment, over 65 percent of smokers reported smoking 'more than normal' in bars. This reduced considerably to 33 percent after the Amendment came into effect. Conversely, the number of smokers who reported smoking 'less than normal' in bars has increased almost four-fold from 7 percent in 2003 to 27 percent in 2005. Figure 4 below shows patronage trends for smokers and non-smokers.

Figure 4: Patronage in bars among smokers and non-smokers, 2003–2005



Since the Amendment came into effect, there appear to have been positive changes in patronage trends for hospitality venues, particularly among non-smokers attracted to smoke-free bars. The findings relate to the proportion of smokers or non-smokers who attend a hospitality venue at least monthly. Data are not available in regard to urban-rural differences.

- Non-smokers have increased their patronage of bars since bars went smoke-free, with reported visits rising from 33 percent in 2003 to 49 percent in 2005.
- Non-smokers have also increased patronage of smoke-free cafes, increasing from 65 percent to 73 percent.
- Smokers continue to patronise bars at levels of around 50 percent. Smokers' patronage of casinos and nightclubs has dropped by about 5 percent respectively.
- There are encouraging signs that bars now attract smokers and non-smokers with equal frequency.

Economic Impact on Hospitality Venues

The tobacco and hospitality sectors suggested there could be a 20–30 percent economic downturn in revenues for bars and hospitality venues following the introduction of smoke-free bars and restaurants. The Hospitality Association of New Zealand estimated up to \$78 million annual losses in liquor sales for local hospitality venues as a result of the introduction of smoke-free environments (Hospitality Association of New Zealand 2002).

Retail Trade Survey (Statistics New Zealand data)

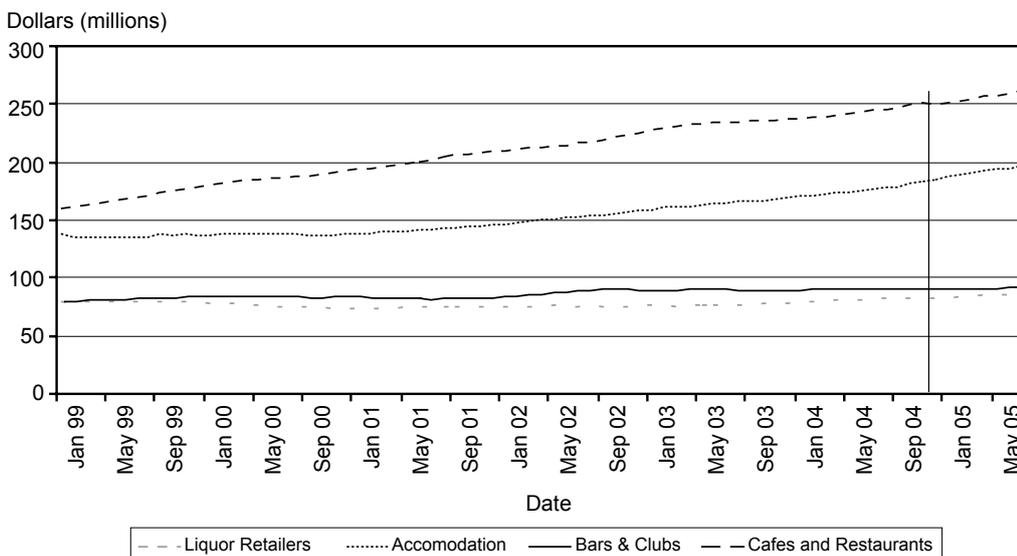
Information for the following section came from the Ministry’s analysis of publicly available data. There is no formal report of the analysis. Data are available from Statistics New Zealand: <http://www.stats.govt.nz>

Data were accessed from Statistics New Zealand’s quarterly Retail Trade Survey and were analysed by the Ministry. Benchmark data have been collected and seasonally adjusted from five years prior to the Amendment and were available for up to the third quarter of 2005 at the time of printing this report. Total revenue from specified individual industries, New Zealand’s per capita income and revenue from other retail industries were used as regression variables.

The statistical model used by Felmingham et al enabled scenario testing using associated variables. The moving averages between July 1999 and July 2005 have been presented in Figure 5 to demonstrate trends in retail sales for the main hospitality industries.

- Overall there appear to be no significant trend changes in the revenues of the main hospitality industries since the Amendment came into effect in December 2004, as shown in Figure 5 below.

Figure 5: Trends in revenue of main hospitality industries, Jan 1999–July 2005



The main hospitality venues show a neutral to positive economic return since the Amendment came into effect. This is consistent with an international review of evidence across over 100 studies of economic impact, which found either no negative impact or a positive impact (Scollo et al 2003).

Accommodation, cafes and restaurants: these hospitality industries have shown strong and consistent growth in revenue since 1999, including the eight months of revenue data collected since the Amendment came into effect.

From July 2004 to July 2005, cafes and restaurants showed an 11.7 percent increase in revenue and accommodation a 13.8 percent increase.

Liquor sales, bars and clubs: these hospitality industries have maintained a neutral to slightly positive revenue base since 1999, with no overall negative impact to date since the Amendment. Other factors that may have contributed to revenue include the Lions rugby tour of New Zealand during May and June 2005.

From July 2004 to July 2005, liquor retailing showed a 2.5 percent increase in revenue and bars and clubs a 2 percent increase.

New Zealand Bar Managers' Perceptions of Economic Impact

The following section summarises the results of a 2005 interim report by Milne and Guenole of the Health Sponsorship Council on a longitudinal study of bar managers' knowledge and attitudes about the Amendment. A full copy is available at <http://www.smokefreelaw.co.nz>

The Milne and Guenole longitudinal study (ongoing) involves phone interviews with bar managers (346 to date) to assess any changes in their perceptions before and after the Amendment. Most interviewees were male (57 percent), New Zealand European (79 percent), aged 31 and over (75 percent) and had been in the hospitality industry over two years (87 percent). Forty-two percent were the venue owner as well as the manager. Over half (56 percent) were rural bar managers. The bar managers were to be contacted again in November 2005, and final results will be available in 2006.

Findings from a cohort of New Zealand bar managers

The Hospitality Association of New Zealand, the body representing bar managers and others, argued strongly against the Amendment during its passage through Parliament. However, the attitudes of many of the bar managers interviewed appear to have changed favourably since the Amendment came into effect, despite over 40 percent of them being smokers. Nationally about 23 percent of the population are smokers.

Perceptions of economic impact from the Amendment

- Just before the Amendment came into effect in December 2004, 51 percent of bar managers expected a short-term economic impact on the industry, while 26 percent expected a more permanent economic impact. Bar managers were not able to comment on the Amendment's possible negative, neutral or positive impact until it came into effect.
- Six months after the Amendment came into effect, 52 percent of bar managers viewed the legislation as having a negative economic impact, 28 percent perceived a neutral economic impact and 15 percent perceived a positive economic impact.
- Of the bar managers who were smokers, 62 percent viewed the Amendment as having a negative economic impact, while 6 percent viewed it as having a neutral economic impact.
- Of the bar managers who were non-smokers, 44 percent viewed the Amendment as having a negative economic impact and 15 percent viewed it as having a neutral economic impact.

- Nearly two-thirds (63 percent) of rural bar managers viewed the Amendment as having a negative economic impact, while 47 percent of urban bar managers viewed the legislation as having a negative economic impact.

The following table summarises the main shifts in attitudes of bar managers between November 2004 (just before the Amendment came into effect) and May 2005 (post Amendment).

Table 1: Main shifts in bar managers' attitudes, November 2004–May 2005

	November 2004 (pre- Amendment)	May 2005 (post- Amendment)
Approve of smoking bans in pubs and bars	44%	60%
Agree workers have the right to work in an environment free of second-hand smoke	55%	62%
Agree all patrons are entitled to smoke-free bars and pubs	53%	65%
Disagree that having to ask people to go outside to smoke makes their job a lot harder	18%	43%

Compliance with the Smoke-free Environments Legislation

Full compliance data are not available at this time, although a follow-up survey is planned for 2006. It is believed that there has been approximately 95 percent compliance with smoke-free provisions in New Zealand since 1990, with only two workplace prosecutions since 1990. Over 90 percent of New Zealanders, including most smokers, strongly support the smoke-free provisions, and so the focus of enforcement has been on encouraging voluntary compliance and support for public health protection against second-hand smoke.

The Amendment does not penalise individuals for smoking in indoor workplaces or licensed premises. Instead there is a potential fine for an employer or business proprietor who fails to take all reasonably practicable steps to prevent someone from smoking in an internal area.

The following findings are based on complaints received via a smoke-free freephone, smoke-free website or lodged with district Smoke-free Officers. The Ministry maintains a national complaints database.

Findings from the national complaints database

Less than 400 complaints had been received in the first nine months after the Amendment came into effect, and less than 350 of those were in relation to smoking in a prohibited place. This is considerably less than the 1880 complaints received in the first nine months of Ireland's smoke-free workplace legislation (Ireland is a country with a similar population to New Zealand) (Irish Office of Tobacco Control 2005).

- Almost half the total complaints received were made against businesses involved in accommodation or hospitality (particularly bars and clubs).
- Eighty-four percent of complaints related to smoking in a prohibited place, 12 percent to sale of smoking products to people under the age of 18, and 4 percent to tobacco displays or other issues.
- A third of complaints came from the Auckland region; the next largest proportions were from Canterbury (15 percent) and Hawke's Bay (11 percent).
- Two prosecutions are pending, awaiting hearings for smoking in indoor, smoke-free areas (one licensed premise, one factory workplace).

Downstream Impacts on Smoking-related Behaviour

The Amendment only applies to workplace and other ‘public’ environments. However, in overseas jurisdictions, such as California, it has been suggested that downstream impacts could include greater support for smoke-free homes, a reduction in socially cued smoking and consumption of cigarettes, and greater motivation for smokers to attempt to quit.

Second-hand smoke exposure in homes

Overseas, banning smoking in workplaces has been linked with less smoking in other settings, including homes and places with children. For example, California banned smoking in workplaces in 1995, and in restaurants and bars in 1998. As a result, the proportion of Californians who had children and who did not allow smoking in the household increased from 63 percent in 1994 to 78 percent in 2001 (California Department of Health Services, Tobacco Control Section 2002a).

- In New Zealand, the percentage of people reporting second-hand smoke exposure in their home has reduced since the Amendment came into effect by over 5 percent (from 20 percent to 14.7 percent) (Waa and Gillespie 2005).
- Other factors may have influenced this result – in particular, the Health Sponsorship Council and Quit Group’s Smoke-free Homes: Take the Smoke Outside media campaign that ran during 2005.

Smoking consumption

Information for the following section comes from the Ministry’s analysis of publicly available data. The data are available from Statistics New Zealand, <http://www.stats.govt.nz>

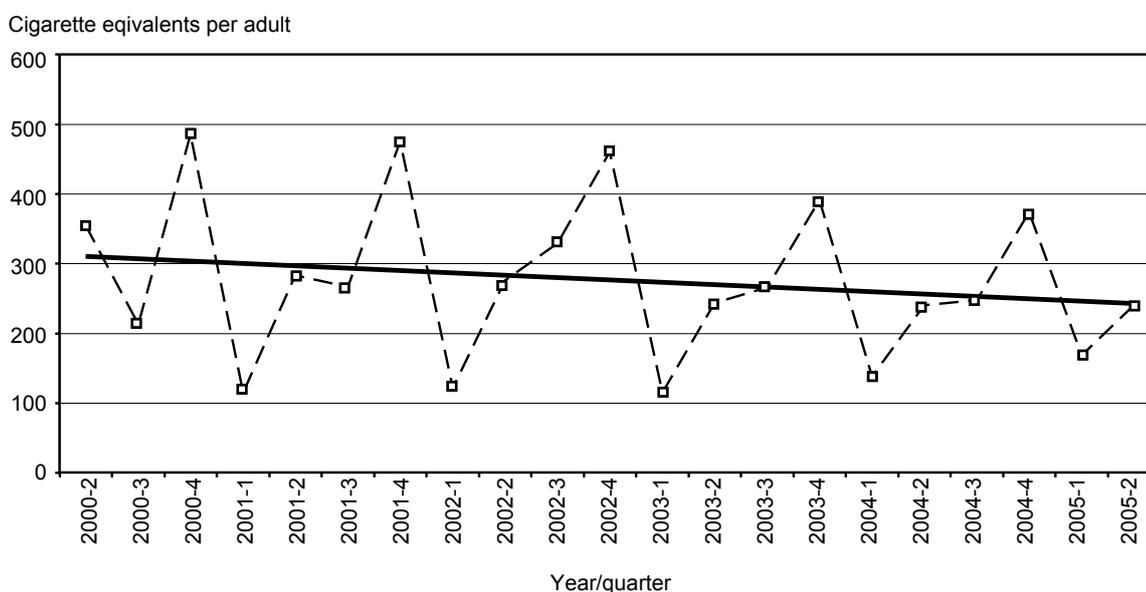
Information about the amount of manufactured cigarettes and loose tobacco released for consumption has been obtained from Statistics New Zealand External Trade Statistics and the New Zealand Customs Service. These figures are based on tobacco products cleared for local consumption on which duty has been paid, and they indicate trends in the production of cigarettes and tobacco. Cigarette and tobacco consumption can only be inferred from the data.

Since the December 1995 indexation (to the rate of inflation), increases occur annually on 1 December. Because of this, larger volumes of cigarettes and tobacco are passed through Customs each November, before the excise increases.

The methodology used in this section is the same as that used in the annual *Tobacco Facts* publication (Ministry of Health 2005). For example, it is assumed that one cigarette equals one gram of loose tobacco and one tonne of loose tobacco equals one million manufactured cigarettes.

Between 1970 and 1999, tobacco consumption per adult in New Zealand fell almost 60 percent (Ministry of Health 2000). Data from the second quarter of 2000 to June 2005 show that this downward trend has continued since the Amendment came into force in December 2004, as shown in Figure 6 below.

Figure 6: Total number of cigarette equivalents released per adult (15+ years), 2000–2005 (quarterly)



Note: The black line indicates the general trend.

Quitline callers

This section summarises a study conducted by Wilson et al in 2005. A copy is available at www.quit.org.nz

The Quitline routinely collects data on the number and characteristics of callers who register with its service to attempt to quit smoking. The Quitline's use before and after the introduction of the Amendment, which came into effect on 10 December 2004, was examined by comparing two periods: 1 December 2003 to 31 January 2004 and 1 December 2004 to 31 January 2005.

Wilson et al found that over 1700 more smokers called the national Quitline in the period 1 December 2004 to 31 January 2005, immediately after the Amendment came into effect, compared to the same period a year earlier. This represented a 45 percent increase in registered callers, from 3945 to 5713.

Weekly caller registration rates also increased, from an average of 558 for the three weeks before the law change to 944 during the week that the Amendment became operational (10 December to 17 December 2004).

Subsequent Quitline calls during 2005 have largely shown a return to usual patterns.

Conclusion

The Amendment appears to have been effective in achieving its aim of reducing levels of second-hand smoke exposure in indoor workplaces. The proportion of workers reporting smoke-free workplaces increased from 80 percent to 91 percent in the first few months of the Amendment coming into effect. Workers in factory and hospitality venues are likely to have seen the greatest changes, although smokers and Māori still remain more likely than other people to be exposed to second-hand smoke at work. A follow-up survey in 2006 may provide more information about these indoor workplaces and employees still being exposed to second-hand smoke. In the longer term, it is expected the reduction in workplace second-hand smoke exposure will be reflected in a reduction in health costs, work absenteeism, hospitalisations and tobacco-related deaths.

Public approval for the right to smoke-free work environments has built to over 90 percent overall, including an increase in support for smoke-free restaurants and bars from 79 percent in 2003 to 91 percent in 2005.

Smokers appear to have coped with the Amendment changes well, maintaining their patronage levels of bars, while non-smokers have markedly increased their patronage, from 33 percent to 49 percent.

Meanwhile, economic data reflect the patronage behaviours, with neutral to positive trends in the first eight months of revenue data for the main hospitality industries since the Amendment came into effect. Liquor retail and accommodation revenues in particular have continued to rise since December 2004, while bars, cafes and restaurants have maintained steady revenues overall.

Finally, enforcing the Amendment has been smooth, with only 400 reported complaints in the first nine months. It appears the encouragement of voluntary compliance has been successful, and businesses, smokers and the general public alike have embraced the new smoke-free culture.

The Ministry proposes to update this report in 2006, following the analysis of data that are still becoming available each month. The 2006 version will be a full evaluation report, updating data from this report and adding new areas of information such as health impacts.

Further Information

A wide range of information and educational resources about the Smoke-free Environments Act 1990 and the Amendment is available at <http://www.smokefreelaw.co.nz>

A non-governmental organisations (NGOs) anniversary report of changes since the Amendment is available at <http://www.asthmanz.co.nz>

Resources, including educational pamphlets and stickers, can be ordered from <http://www.healthed.govt.nz>

The legislative text of the Amendment is available at <http://www.legislation.govt.nz> (Smoke-free Environments Amendment Act 2003 or a consolidated version of the Smoke-free Environments Act 1990).

Further information about the New Zealand government's tobacco control policies and research is available at <http://www.ndp.govt.nz>

Enquiries

Contact the National Drug Policy team at the Ministry of Health, PO Box 5013, Wellington or via the website: <http://www.ndp.govt.nz>

Disclaimer

The information available in this report is intended to provide general information to the public, and all reasonable measures have been taken to ensure the quality and accuracy of that information. However, the Ministry of Health does not accept any responsibility or liability whatsoever whether in contract, tort, equity or otherwise for any action taken as a result of reading, or reliance placed on the Ministry of Health because of having read, any part, or all, of the information in this report or for any error, inadequacy, deficiency, flaw in or omission from the information provided in this report.

This report may also contain advice, opinions and statements of various research providers. The Ministry of Health does not represent or endorse the accuracy or reliability of any advice, opinion, statement or other information provided by any information provider, any user of this report or any other person or entity. Reliance upon any such advice, opinion, statement or other information shall be at the user's own risk.

References

California Department of Health Services, Tobacco Control Section. 2002a. *California Tobacco Control Update*. Sacramento: California Department of Health Services.

California Department of Health Services, Tobacco Control Section. 2002b. *Indoor and Outdoor Secondhand Smoke Exposure*. Sacramento: California Department of Health Services. Available at: <http://www.dhs.ca.gov/tobacco/> 'Secondhand Smoke' pdf factsheet).

Communique Limited. 2005. Aotearoa New Zealand Smokefree Workplaces: A 12 month report. Report to the Asthma and Respiratory Foundation of New Zealand. Available at: <http://www.asthmanz.co.nz>

Felmingham B, Farley M, Altmann R, et al. 2003. *Analysis of the Economic Effects of Past and Future Smoking Bans in Tasmania*. Hobart: Farley Consulting Group.

Fowles J, Christopherson A, Woodward A, et al. 2005. *A Study of Secondhand Tobacco Smoke Exposures in Bars from Three Regions in New Zealand: Results prior to implementation of ban in smoking in bars*. Report to the Ministry of Health. Wellington: Ministry of Health. Available at: <http://www.smokefreelaw.co.nz>

Hill S, Blakely T, Woodward A, et al. 2004. Increased mortality among never-smokers living with smokers: evidence from two New Zealand cohorts 1981–84 and 1996–99. *British Medical Journal* 328: 988–89.

Hospitality Association of New Zealand. 2002. Media release 29 November 2002: Big losses if anti-smoking bill goes through. Accessed: 27 September 2005: <http://www.hanz.org.nz/>

Irish Office of Tobacco Control. 2005. *Smoke-free Workplaces in Ireland: A one-year review*. Kildare, Ireland: Office of Tobacco Control. Available at: <http://www.otc.ie>

Jarvis M, Foulds J, Feyerabend C. 1992. Exposure to passive smoking among bar staff. *British Journal of Addiction* 87: 111–13.

Ministry of Health. 2000. *Tobacco Tax: The New Zealand experience*. Pamphlet based on AC Nielson data. Wellington: Ministry of Health.

Ministry of Health. 2004. *Clearing the Smoke: A five-year plan for tobacco control in New Zealand, 2004–2009*. Wellington: Ministry of Health.

Ministry of Health. 2005. *Tobacco Facts 2005*. Wellington: Ministry of Health.

Milne K and Guenole N. 2005. *Attitudes to Smoke-free Bars among a Cohort of New Zealand Bar Managers: Interim results from surveys conducted one month before and five months after the introduction of smoke-free bars*. Report to the Ministry of Health. Wellington: Ministry of Health. Available at <http://www.smokefreelaw.co.nz>

National Research Bureau. 2001. *Exposure to Second-hand Cigarette Smoke*. A report to the Ministry of Health. Wellington: Ministry of Health. Available at: <http://www.ndp.govt.nz//tobacco/resources.html1#nrb>

Scollo M, Lal A, Hyland A, et al. 2003. Review of the quality of studies on the economic effects of smoke-free policies on the hospitality industry. *Tobacco Control* 12: 13–20.

Waa A and Gillespie J. 2005. *Reducing Exposure to Second Hand Smoke: Changes associated with implementation of the amended Smoke-free Environments Act 1990: 2003–2005*. Report to the Ministry of Health. Wellington: Ministry of Health. Available at: <http://www.smokefreelaw.co.nz>

Wilson N, Thomson G, Grigg M, et al. 2005. New smoke-free environments legislation stimulates calls to a national Quitline. *Tobacco Control* 14: 287. Available at: <http://www.quit.org.nz>

Woodward A and Laugesen M. 2001a. *Deaths in New Zealand Attributable to Exposure to Second-hand Cigarette Smoke*. Report to the Ministry of Health. Wellington: Ministry of Health. Available at: <http://www.ndp.govt.govt.nz/publications/secondhandsmoke.pdf>

Woodward A and Laugesen M. 2001b. How many deaths are caused by second hand cigarette smoke? *Tobacco Control* 10: 383–88.

Woodward A and Laugesen M. 2001c. *Morbidity Attributable to Second-hand Cigarette Smoke in New Zealand*. Report to the Ministry of Health. Wellington: Ministry of Health. Available at: <http://www.ndp.govt.govt.nz/publications/secondhandsmoke.pdf>