

**Review of the Environmental Tobacco Smoke  
(ETS) Provisions of the *Occupational Health and  
Safety Regulation***

**Regulatory Impact Statement**

**Prepared by:**

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# Executive Summary

**Prepared by:** Workers' Compensation Board of BC.

**Regulatory Impact Statements are prepared and used by regulatory authorities such as the Workers' Compensation Board as part of informed decision-making in accordance with the *Regulatory Impact Statement Act* and Regulations.**

**Issue:** Should the WCB amend its second-hand smoke regulation to require public entertainment and long-term residential facilities to control worker exposure to second-hand smoke in areas used by the public by prohibiting smoking in their workplaces, by restricting smoking to designated smoking areas, or by other equally effective means?

## **Is the issue correctly defined?**

Yes. In March 2000, the BC Supreme Court struck down a "sunset clause" in the *Occupational Health and Safety Regulation* that removed a partial exemption for public entertainment and long-term residential facilities from the *Regulation's* second-hand smoke requirements until the WCB could undertake proper consultations. Such consultations have now been held in the form of a public hearing, which included opportunity for written and oral submissions. The issue is whether the exemption should continue, whether it should be removed, or whether some other requirement for controlling worker exposure to second-hand smoke should apply to public areas of public entertainment and long-term residential facilities.

## **Is government action justified?**

The WCB has the mandate to be concerned with occupational health and safety generally, and with the maintenance of reasonable standards for the protection of the health and safety of workers in BC and the occupational environment in which they work. Action by the WCB would be justified should it choose to amend the second-hand smoke requirements.

## **Is regulation the best form of government action?**

Yes. A regulation is necessary for compliance.

## **What is the best regulatory approach?**

Three options have been identified for consideration. The WCB will consider its mandate and the purpose of the *Occupational Health and Safety Regulation* in determining which is the best approach.

## **Is there a legal basis for regulation?**

Yes. The *Workers Compensation Act* states that the WCB may make regulations it considers necessary or advisable in relation to occupational health and safety and occupational environment.

## **What is the appropriate level of government for this action?**

The regulation of occupational health and safety of provincial workplaces in Canada falls solely under provincial jurisdiction. In BC, occupational health and safety is regulated by the WCB.

**Do the benefits of regulation justify the costs?**

Extending the second-hand smoke requirements to public areas of public entertainment and long-term residential facilities can be justified. The proposed WCB amendment would likely have some negative, short-term impacts (i.e., negative business impacts for the first few months) for some establishments. However, in the longer term, no measurable impact is likely. It is expected that the proposed amendments would lead to benefits to businesses in the form of lower operating (e.g., cleaning) costs, higher worker productivity, and less absenteeism due to sick days. The benefits to the health of workers are difficult to quantify, but it is expected that a reduction in smoke-related illness and deaths (and associated costs) would occur as workers would no longer be exposed to the harmful effects of second-hand smoke in their workplaces. Secondary benefits, such as a reduction in the number of smokers is also likely. In addition, the proposed amendments would ensure that all workers are given equal protection regardless of where they work and would establish an equal playing field among the BC hospitality sector in regard to ETS restrictions.

**Will there be an impact on British Columbia's competitiveness?**

A review of relevant data suggest that the application of the second-hand smoke requirements to the hospitality industry in all of BC would cause neither a substantive dislocation of BC residents to establishments in either Alberta or the US nor an impact on tourist visits to BC.

**How will a policy that is clear, consistent, comprehensible and accessible to users be assured?**

The announcement will be communicated widely so that all parties are aware of the decision and given sufficient notice. If amendments are adopted, information packages would be sent to stakeholders outlining clearly the requirements for compliance. Such packages would also include answers to frequently asked questions.

**Have all the parties had the opportunity to present their views?**

A formal public hearing was held in four locations across the Province in June 2000. All those who wished to be heard at the hearing were accommodated. The process allowed written submissions to accommodate those not in personal attendance or not wishing to present their views verbally.

**What are the views of front-line staff?**

Front-line staff was involved in the public hearing process and the subsequent review of this issue.

## 1. Is the issue correctly defined?

### *What is the issue?*

The issue is whether the Workers' Compensation Board of BC (the "WCB") should require public entertainment and long-term residential facilities to control worker exposure to second-hand smoke (also known as Environmental Tobacco Smoke or ETS), in areas used by the public, by prohibiting smoking in their workplaces, by restricting smoking to designated smoking areas, or by other equally effective means.

Public entertainment facilities include restaurants, bars and games rooms. Long term residential facilities include extended care facilities and corrections facilities.

Sections 4.81 - 4.83 of the WCB's *Occupational Health and Safety Regulation* (the *Regulation*) set out the Board's second-hand smoke requirements. The requirements came into effect, after public hearings, on April 15, 1998 for all workplaces in BC except the public areas of public entertainment and long-term residential facilities. The provisions were one result of an overall review of the *Regulation* that took place in consultation with stakeholders over a period of five years.

Section 4.81 of the *Regulation* requires employers to control the exposure of workers to second-hand smoke by prohibiting smoking in the workplace, or restricting smoking to designated smoking areas, or by other equally effective means. Section 4.83 of the *Regulation* provides a partial exemption to public entertainment facilities and long term residential facilities from application of section 4.81.

The second-hand smoke provisions that came into effect on April 15, 1998 contained a "sunset clause" (section 4.83(3)). The "sunset clause" provided that on January 1, 2000, the partial exemption for public entertainment and long term residential facilities to the second-hand smoke requirements would be removed. As such, from January to March 2000, section 4.81 of the *Regulation* applied to all workplaces in BC. This sunset clause was based on feedback received from some stakeholders during the public hearing process and during working group meetings with a stakeholder advisory group.

In *BC Liquor Licensees v. WCB*, the Supreme Court of British Columbia ruled that the WCB enacted the "sunset clause" without proper notice to those affected and found it to be null and void. The effect of this decision was to reinstate the partial exemption of public entertainment and long term residential facilities to the requirements set out in section 4.81. That is, public entertainment and long term residential facilities are currently exempt from controlling the exposure of workers to second-hand smoke, in areas used by the public, by either prohibiting smoking in the workplace or by restricting smoking to designated smoking areas

or by other equally effective means. Instead, the requirement for these facilities is to minimize exposure by the use of all reasonable and practicable controls, including administrative and engineering controls.

The current review of the second-hand smoke requirements is to determine whether the partial exemption for public entertainment and long term residential facilities should continue, whether these facilities should be required to control worker exposure to second-hand smoke as do all other workplaces in BC, or whether some other requirement should apply.

***What is the extent of harm and risk that the regulatory policy seeks to address?***

Workers in restaurants, bars, casinos, cabarets, bingo halls, extended care facilities and prisons in BC are not fully protected from exposure to second-hand smoke under the WCB's current *Regulation*.

Exposure to second-hand smoke has been linked to increased rates of: lung cancer and cardiovascular (heart) disease, developmental effects (e.g., low birthweight infants), non-malignant respiratory disease and related disorders. Second-hand smoke has also been associated with increased risks for: breast and sino-nasal cancer, cerebrovascular disease (e.g., stroke), and reproductive disorders. More research is needed in these areas, however, before any conclusions regarding causation can be drawn. In addition, second-hand smoke has been designated as a known human cancer-causing agent by a number of well-recognized, international health agencies. No agency has set an acceptable level of exposure to second-hand smoke.

There is some debate in the stakeholder community about the health effects of exposure to second-hand smoke. Some stakeholders assert that the science is not conclusive in showing that second-hand smoke causes adverse health effects and expressed specific concerns about the methods employed in some of these studies. Some stakeholders maintain that an acceptable level of exposure to second-hand smoke should be established and that general ventilation systems should be allowed which bring exposure to second-hand smoke to an acceptable level.

Other stakeholders argue that the science is very clear and that the risk from exposure to second-hand smoke is increased amongst bar, casino, cabaret and restaurant workers as they frequently work long hours in rooms with heavy smoke.

***What is the objective?***

The primary objective of the second-hand smoke requirements is to protect the health of workers from harmful effects of exposure to second-hand smoke. The purpose of the *Occupational Health and Safety Regulation* is to protect workers

and other persons present at workplaces from work related risks to their health and safety. There is an overall benefit to all citizens of BC by promoting occupational health and safety.

Any amendments to the second-hand smoke requirements should reflect these purposes.

## **2. Is government action justified?**

Many stakeholders have been encouraging the Board to amend the second-hand smoke requirements so that they apply to all workplaces in BC. They assert that the WCB has the legal obligation to do so. They also suggest that it is unjust to provide hospitality and residential care workers with less protection than other workers in other industries. Other stakeholders argue that the WCB has no business regulating second-hand smoke as cigarettes are legal. They feel that employers, workers, and the public should have the choice to operate, work in and/or patronize smoking establishments.

Action by the WCB would be justified should it choose to amend the second-hand smoke requirements.

Under section 111 (1) of the *Workers Compensation Act*, the WCB has the mandate to be concerned with occupational health and safety generally, and with the maintenance of reasonable standards for the protection of the health and safety of workers in BC and the occupational environment in which they work.

In carrying out its mandate, the WCB has the duty to exercise its authority to make regulations to establish standards and requirements for the protection of the health and safety of workers and the occupational environment in which they work.

## **3. Is regulation the best form of government action?**

The BC WCB has regulated occupational health and safety since 1917. Occupational health and safety is regulated by workers' compensation boards in five other Canadian jurisdictions and by provincial ministries/departments in the remaining six jurisdictions.

The issue under consideration is not whether there should be a second-hand smoke regulation, but whether the regulation should apply to all workplaces. Given that the requirements for controlling exposure to second-hand smoke are contained in the *Occupational Health and Safety Regulation*, an action by the WCB, in the form of an amendment to the *Regulation* would be necessary if the

decision was to extend the application of the requirements to all workplaces. A non-regulatory approach would not be feasible.

In Canada, six other provincial jurisdictions have laws in force that regulate smoking in workplaces and/or public places. Two provinces currently have proposed occupational health and safety regulations on second-hand smoke. In addition, many local governments regulate smoking. Some jurisdictions exempt public entertainment and long-term residential facilities from such regulations, others do not.

#### **4. What is the best regulatory approach?**

The following options have been identified for consideration:

1. Maintain the status quo and continue to exempt public entertainment and long-term residential facilities from having to control worker exposure to second-hand smoke in areas used by the public in accordance with section 4.81.
2. Amend the *Regulation* as it went out for public hearing - to require public entertainment and long-term residential facilities to control worker exposure to second-hand smoke in areas used by the public in accordance with section 4.81.
3. Propose further amendments to the *Regulation* (e.g., adopt an acceptable level of exposure to second-hand smoke, which would permit the use of general ventilation if it reduces exposure to the acceptable level).

546 submissions were received during the public hearing that was held on this issue. Of these submissions, 55 per cent were in support of extending the second-hand smoke requirements to public entertainment and long-term residential facilities. Forty two per cent were opposed to such an extension and three per cent were undeclared.

During the public hearing, some argued that ventilation is an acceptable alternative and that there are ventilation systems that significantly reduce exposure to second-hand smoke. Others argued that ventilation is not an acceptable alternative as it does not eliminate the toxins produced by cigarettes.

The WCB conducted a review of the effectiveness of general ventilation technologies in eliminating exposure to second-hand smoke. It was found that there are no current general ventilation technologies that eliminate exposure to second-hand smoke. Therefore, the ventilation alternative would require the WCB to set an acceptable level of exposure to second-hand smoke (Option 3 above).



No agency involved in setting occupational exposure limits has quantified an occupational exposure limit for ETS. There are a number of factors that make the setting of such a limit extremely difficult. Some of these factors include: the complexity of the mixture of second-hand smoke<sup>1</sup> and the lack of analytical technique to quantify exposure; the variability in combustion temperature; and the range of adverse health effects from second-hand smoke that involve different modes of action on the human body including impaired lung function, respiratory irritation, cardiovascular effects, asthmatic attack and lung cancer, cerebrovascular effects and breast cancer.

## **5. Is there a legal basis for provincial regulatory policy?**

Yes. Under section 225 (1) of the *Act*, the WCB may make regulations it considers necessary or advisable in relation to occupational health and safety and occupational environment.

## **6. What is the appropriate level of government for this action?**

In Canada, the regulation of occupational health and safety in provincial workplaces falls solely under provincial jurisdiction.

## **7. Do the benefits of regulatory policy justify the costs?**

The WCB retained an external consultant to determine the potential economic impacts of requiring hospitality employers to control worker exposure to second-hand smoke in accordance with the proposed amendments. The consultant's findings were used to complete the summary of the benefits and costs of extending the second-hand smoke requirements to the hospitality sector, which is set out in the accounts below.

### **Account - Business Impacts**

The WCB views business impacts as those impacts affecting businesses in the hospitality sector (e.g., operational costs, sales, etc.).

During the public hearing on this issue, many employers in the hospitality industry submitted that the previous regulation had an adverse financial impact on their businesses. They stated that the regulation resulted in a marked decline in sales in pubs, bars and cabarets during the first two-and-a-half months of

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<sup>1</sup> Second-hand smoke consists of a highly complex mixture of over 4000 chemicals that are present in vapour and solid phase.

2000, particularly in regions outside the Lower Mainland. They stated that the drop in business resulted in large layoffs (estimated at 780) and reduced hours for those workers who did not lose their job. It was claimed that even three to four months after the regulation was struck down, businesses that complied had not returned to their former level of activity.

Other stakeholders stated that they had observed many businesses doing very well during the ban and noted that many have continued to remain smoke-free even where there is no local bylaw in place. They also pointed to the experiences in California and Victoria and claim that there was no long-term adverse effect on business in these places. They felt that the economic impact of the previous regulation has been exaggerated and that the regulation was not in place long enough to determine its real effect on business.

Some employers stated that California and Victoria are not fair comparisons to the whole of BC because of differences in climate and in the specific requirements. They also suggested that customer loss was primarily due to people drinking at home.

A review of short-term, provincial and regional impacts and long-term impacts of extending the second-hand smoke requirements to the hospitality sector was conducted. The period during which the requirements applied to the hospitality sector (January 1, 2000 to March 22, 2000) was used as a proxy to determine the potential short-term business impacts.

Information from a number of different databases was used in the review:

**Liquor Distribution Branch (LDB) Database** (Contains monthly liquor purchases by alcohol type for each establishment (licensee) in the province).

**Provincial Hotel Tax Database** (Identifies monthly taxable accommodation revenues for the province and for each Regional District. Accommodation revenues were deflated by accommodation price index to proxy tourist visits in each location. The importance of including this data is that a change in liquor purchases may be the result of a change in tourism activity rather than due to the smoking restrictions).

**Statistics Canada's Restaurant, Caterer and Tavern Receipts** (Identifies total receipts in BC and total receipts by drinking places in BC. This data was not used in the main analysis, but was used to confirm the general findings).

**Employment Insurance (EI) Data.** (These data track the level of EI recipients each month by four general occupations related to the hospitality sector).

## **Potential Business Costs**

### ***Short-term Impacts***

Liquor purchases over the last few years were assessed to determine what impacts occurred between January 1 2000 and March 22 2000 on hospitality businesses. The methodology used was an econometric analysis based on changes in liquor purchases. It is a statistically defensible approach that quantifies the cost to business, both in the short-term and in the long-term. The technique takes into account other factors that may affect sales to hospitality businesses. The methodology uses detailed establishment-level information and develops econometric equations that estimate explicit values for the impacts and, as well, includes levels of confidence for these estimates.

The review determined that a statistically significant<sup>2</sup>, short-term, negative impact occurred in the hospitality sector throughout the province for the first month (January 2000) after the second-hand smoke regulation was extended to the hospitality industry. The decline was estimated at 12.3 per cent. For the second month (February 2000), the negative impact declined to an estimated 4.9 per cent, and was not statistically significant. As the application of the regulation to the hospitality industry was lifted part way through the third month (March 22, 2000), the impact of the regulation in this month could not be estimated.

In terms of the four industry sub-sectors identified, hotels/resorts (-13.7%), dining establishments (-11.9%) and neighborhood pubs (-12.2%) had a statistically significant negative impact in the first month. The second month was also estimated as having a negative impact (-7.7%, -1.7%, and -7.4% respectively), but the impact had declined from the first month and was no longer statistically significant. The estimated negative impact on cabarets was not statistically significant in either month.

It is possible that during January – March 2000 customers chose to purchase liquor directly from Licensee Retail Stores (LRS) or from Government Liquor Stores (GLS) and consume at home rather than frequent local establishments. The data provided by the Liquor Distribution Branch included sales by Licensee Retail Stores (LRS) as a separate component, enabling an assessment of

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<sup>2</sup> In the consultant's report, statistical significance is used as an expression of confidence, that the true value of the impact is within an interval that does not include 0 (no impact). Thus, where an impact is found to be negative and statistically significant, we can be 95% confident that a negative impact occurred. For example, the total impact for January is estimated as a 12.3% drop in liquor purchases and is statistically significant. Thus, we can be 95% confident that the true value falls within an interval (plus or minus) around -12.3% with both the highest and lowest points in the interval being less than zero. If the interval overlapped the number zero, it would be statistically possible, at the 95% confidence level, that the true value was zero and thus no impact had occurred. In both statistically significant and insignificant results, the point estimate (-12.3% in this example) is the best estimate of the impact.

whether people were choosing to purchase LRS liquor for consumption at home rather than frequenting local pubs and bars.

It was found that total over-the-counter sales from Government Liquor Stores in January 2000 were very slightly higher than sales in January 1999 (approximately a 2 percent increase) and LRS sales actually fell by some 8 percent during that same time period. Given that there has been an upward trend in over-the-counter sales over time, it does not appear that there was a notable shift to over-the-counter sales in that month. February Government sales display an increase of just over 5 percent while LRS sales increased by 3 percent. In March, Government sales increased by over 13 percent, but in contrast, LRS sales actually fell by some 5 percent.

### ***Designated Smoking Areas***

The WCB's proposed amendments allow for designated smoking areas as long as staff are not permitted to work in those premises. There are costs and benefits associated with these areas.

It is difficult to assess the costs for constructing such a designated room, since the hospitality industry premises are so varied. Nevertheless, some average cost estimates have been developed that meet the WCB specifications and that meet the required airflow.

The cost of installing proper ventilation is between \$1,400 and \$4,000 with an average cost of around \$2,200, plus another \$800 for renovations. If, however, a new room were to be required, the costs of construction would be approximately \$16,000.

Overall, then, the cost to an establishment would be in the range of between \$3,000 and \$16,000, with the average estimated to be \$10,000. No calculation was made regarding changes to consumption as a result of such renovations.

The Liquor Control and Licensing Board has formally stated that it would permit the licensing of designated smoking areas if the proposed amendments are adopted (something that was not permitted during the January – March 2000 period). As such, it is expected that the short-term costs associated with the previous application of the second-hand smoke regulations to public areas of public entertainment and long-term residential facilities (as set out above) would be mitigated if the proposed amendments were adopted.

### ***Long-term Impacts***

The longer-term business impacts were assessed through a literature review of studies conducted on other jurisdictions and analysis of the Capital Regional District's smoke-free bylaw enacted January 1, 1999.

## ***Long-term Impacts - Literature***

Over the past decade a number of jurisdictions in North America have passed a range of restrictive smoking regulations that have applied to hospitality facilities. As a consequence of these regulations, numerous studies have been published assessing the economic impacts of these smoking restrictions. The majority are US-based studies addressing the effects on total restaurant sales and/or employment. Many of these studies use taxable retail sales data to measure the ratio of taxable sales of the food and beverage industry to total retail sales decreases after the introduction of the smoking restrictions.

A review of recently published studies that examine the economic impacts of smoke-free legislation in the hospitality industry by using tax data was conducted. The conclusion of all the published studies reviewed was that smoking restrictions do not impact negatively on hospitality sales and/or on employment in the long run. The studies, however, are subject to specific criticisms.

In studies by Glantz, Huang and Sciacca and others,<sup>3</sup> the analyses use the proportion of restaurant sales to total retail sales in each region, and therefore they account for general economic trends as well as the introduction of the smoke-free ordinance. The results generally are unequivocal in that the statistics indicate no negative impact on the proportion of consumer spending in restaurants. The authors acknowledge that problems with grouping of establishments and the regional aspects of the data may have some effect. Nevertheless, the conclusions are so overwhelmingly against negative impacts that the conclusions are generally accepted.

While some studies have looked at employment impacts through surveys of owner/operators, several studies have used administrative data sources (e.g. Department of Labour).<sup>4</sup> These studies have the same challenges as those studies examining the impacts on sales in that the employment data do not identify sub-sets of restaurants. Still, the conclusions are strong, reflecting the same conclusions as the studies on sales: no impacts.

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<sup>3</sup> Tourism and Hotel Revenues Before and After Passage of Smoke-Free restaurant Ordinances; Glantz SA, Charlesworth A. *Journal of the American Medical Association* 281: 1911-1918, 1999; Prohibiting Smoking in Restaurants: Effects on Restaurant Sales; Sciacca JP, Ratliff MI. *American Journal of Health Promotion* 12(3): 176-184, 1998; The Effects of Ordinances Requiring Smoke-Free Restaurants and Bars on Revenues: A Follow-up; Glantz SA; Smith LRA. *American Journal of Public Health* 87(10): 1687-1693, 1997; Assessment of the Impact of a 100% Smoke-Free Ordinance on Restaurant Sales – West Lake Hills, Texas, 1992 –1994, Huang P, Tobias S, Kohout S, Harris M, Satterwhite D, Simpson DM, Winn L, Foehner J, Pedro L. *Morbidity and Mortality Weekly Report* 44(19): 370-372, 1995; The Effects of Ordinances Requiring Smoke-Free Restaurants on Restaurant Sales; Glantz SA, Smith LRA. *American Journal of Public Health* 84(7): 1081-1085, 1994; Effects of a City Ordinance Regulating Smoking in Restaurants and Retail Stores, Sciacca, JP, Eckrem, *Journal of Community Health* 18(3): 75-182, 1993.

<sup>4</sup> See, for example, Restaurant Employment Before and After the New York City Smoke-Free Air Act Hyland

Several studies have looked at the impacts on restaurants of instituting voluntary restrictions. The Conference Board of Canada, for example, looked at 65 restaurants that voluntarily went smoke-free. Their conclusion was that “the experience of going smoke-free was a positive one for the majority of restaurants examined in this study.”<sup>5</sup> The criticism is that the survey sample was not unbiased since only those restaurants that *ex anti* believed a smoke-free environment would be beneficial to their business would have undertaken voluntary smoking restrictions.

### ***Long term Impacts - CRD***

The Capital Region District (CRD) clean air bylaw came into effect on January 1, 1999. The bylaw is more restrictive than the WCB’s proposed amendments as it does not allow for indoor, designated smoking areas. However, a review of the impact on the CRD gives some indication of the longer-term impacts on the hospitality sector and supplements the studies on other jurisdictions.

Liquor purchase data for the Capital Regional District were used to assess the potential long-term impacts. The short-term impacts were estimated as a statistically significant decline of 6.4 per cent. In contrast, the long-term impacts were not statistically significant. Because of the importance of tourism to the central core of the CRD, the long-term impact analysis was re-done using only those establishments in the CRD outside the City of Victoria. The results showed that the short-term impacts were greater than in the CRD proper (-7.5 percent and significant) but that the long-term impacts were also not significant.

The Victoria area is very different in climate and demographics than many parts of the province. Nevertheless, the results suggest that, although there may be a short-term impact on business from instituting smoke-free regulations in the hospitality sector, there would be no longer-term effects from instituting the proposed amendment.

### **Potential Business Benefits**

Businesses that adopt no-smoking policies may witness lower operating costs. These costs, especially related to hospitality businesses, are not well-documented, and no primary research on this aspect has been undertaken for this report. Nevertheless, it is possible to provide some information on the general cost savings that a business could experience.

Cost savings to businesses can be categorized in two ways. The first is savings through less employee absenteeism. The second is a savings in operational costs in the form of lower cleaning costs, reduced replacement costs due to fewer burned material, reduced fire insurance costs, etc.

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<sup>5</sup> The Economics Of Smoke-Free Restaurants, Toronto, The Conference Board of Canada, 1996

Several studies have looked at the general impacts of absenteeism in workplaces. The working conditions in restaurants and bars in BC will differ. Nevertheless, the results of the studies indicate substantive savings from restricting smoking.

In Scotland, Parrott et al. estimate that employers' losses reached more than £33 (~\$75) million during 1995.<sup>6</sup> In the US, Dow Chemical Co. estimated that one of its divisions lost roughly \$600,000 annually due to smoker absenteeism, but the research does not identify the potential average savings per worker if no-smoking regulations were instituted.<sup>7</sup> The US Environmental Protection Agency found that smokers have about 50% more workdays lost as compared to non-smokers, but did not state what savings could be realized if smoking were restricted.<sup>8</sup>

Savings due to lower maintenance and insurance costs are harder to estimate, particularly given the wide variety of workplaces throughout the economy. Parrott et al.<sup>9</sup> estimate that Scotland incurs approximately £4 (~\$9) million in additional costs due to workplace fires caused by smokers. The City of Vancouver argues that maintenance costs will decrease because of its non-smoking requirements, but it does not attempt to quantify the findings.<sup>10</sup> Overall, the Congressional Office of Technology Assessment estimated that smokers in the US cost their employers between US\$2,000 and US\$5,000 per annum in increased health care and fire insurance premiums, absenteeism, lost productivity and property damage.<sup>11</sup>

### **Account – Regional Impacts**

The proposed amendments would apply equally across every region in BC. Due to differences in climate, proximity to Alberta and US borders, and the number of smokers in each region, the impact of the proposed amendments may vary across regions.

Some hospitality employers situated near Alberta or Washington indicated during the public hearing on this issue that many of their customers were lost to businesses across the border because of the WCB second-hand smoke requirements.

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<sup>6</sup> Parrott, S., Godfrey, C. & Raw, M. Cost And Benefit Analysis Of Smoking Cessation In The Workplace. Report for the Health Education Board for Scotland. Centre for Health Economics, University of York, 1996.

<sup>7</sup> Sculco, TW. Smokers' Rights Legislation: Should the State 'Butt Out' of the Workplace, Boston College Law Review 33:879-902 1992.

<sup>8</sup> US Environmental Protection Agency. The Costs and Benefits of Smoking Restrictions: An Assessment of the Smoke-Free Environment Act of 1993. Office of Radiation and Indoor Air, Washington, DC. April 1994.

<sup>9</sup> Op. Cit.

<sup>10</sup> City of Vancouver. Policy Report from Medical Officer of Health, 100% Smoke-Free Indoor Environments, October, 1994.

<sup>11</sup> Warner D. We Do Not Hire Smokers: May Employers Discriminate Against Smokers?, Employee Responsibilities Rights Journal, 7:129-40, 1994.

The econometric model set out in the Business Impact Account above was undertaken for the eight Development Regions in the BC: Vancouver Island/Coast; Mainland/Southwest; Thompson-Okanagan; Kootenay; Cariboo; North Coast; Nechako; and Northeast. It was found that all regions, with the exception of Kootenay, had statistically significant declines in liquor sales in the first month that the second-hand smoke requirements applied to the hospitality sector (January 2000). Only two, the Northeast and North Coast had statistically significant declines in the second month (February 2000).

A review of the rural areas of BC was also conducted and it was found that establishments in the rural areas of BC were not measurably impacted in a negative way by the extension of the WCB second-hand smoke requirements to the hospitality sector.

Border areas may have been affected to a greater degree because patrons living near a BC border had greater choice to frequent bars in localities where smoking was permitted. A review of such areas was conducted. The review showed that the January coefficient is highly significant and the value is slightly higher in magnitude than for the province as a whole (14.2 percent vs. 12.3 percent). The question arises then, did border establishments suffer disproportionately compared to the province as a whole? To test the hypothesis that the Border Region coefficient is statistically lower (a larger negative impact) than the coefficient for the province, a standard difference of means test was applied to the two coefficients.<sup>12</sup> The results of the test suggest that sales in Border Regions in January were not impacted to a greater degree than the province as a whole. The coefficients for February and March were not significant either and showed no statistical difference to the provincial results.

A potential regional benefit of extending the WCB second-hand smoke requirements to all hospitality establishments in BC is that the hospitality sector would be subject to the same restrictions regardless of region. Currently, some local governments have imposed non-smoking bylaws that apply to the hospitality sector and others do not, which leads to an unequal playing field among establishments and municipalities across BC.

### **Account – Worker Impacts**

The WCB views worker impacts as impacts on working hours and unemployment in the hospitality industry. Health impacts to workers is discussed in the Health Impact Account below.

Many stakeholders in the hospitality industry (particularly bar owners and workers) stated that the extension of the WCB second-hand smoke requirements

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<sup>12</sup> A difference of means test takes into account both the differences in the two point estimates and their confidence intervals.



to the hospitality sector caused them to lose hours and income from tips. They also stated that some workers had lost their jobs. They submitted that the decrease in liquor sales resulted in a drop in take-home pay for many staff, since gratuities represent a major proportion (50% - 75%) of staff take-home pay. In addition, stakeholders claimed that smokers in general give larger tips, exacerbating the adverse impacts on staff.

Employment insurance (EI) recipients since the beginning of 1997 were reviewed by four occupational categories: managers, chefs and cooks, bartenders and servers, and kitchen help. On a year-over-year basis, the first quarter of 2000 witnessed a decline in EI recipients. This should not be construed as suggesting that the extension of the second-hand smoke regulation in January 2000 reduced unemployment since many other factors may have influenced hospitality activity. More important is to assess the change from December 1999.

Although all occupations show an increase in unemployment in the first quarter of 2000 (a total difference of 135, March 2000 vs. December 1999), similar increases were observed in the first quarters of 1998 (109) and 1999 (149).

Hence, it is difficult to claim that there was a marked increase in unemployment in these occupations during the time the WCB second-hand smoke requirements applied to the hospitality sector. Although a reduction of working hours and tips may have occurred, based on the findings that the business impacts will be neutral in the long-term, it is expected that this potential negative impact would also neutralize in the long-term.

### **Account - Health Impacts**

During the public hearing on this issue, a number of stakeholders pointed to the health effects that they feel are linked to exposure to second-hand smoke, such as heart disease, cancer and asthma. They also pointed to the number of toxins in tobacco smoke such as benzene. They stated that the health impact of second-hand smoke is far more important than profits.

Many submitters also thought that the risk from second-hand smoke is increased amongst hospitality workers, as they frequently work long hours in rooms with heavy smoke. As well, concerns were expressed that many such workers are young people and/or women who may be pregnant and who could be particularly vulnerable to adverse health effects. A number of hospitality and residential care workers related descriptions of adverse health effects, including lung and other cancers, asthma problems, and short-term acute health problems, which they felt were caused by second-hand smoke in their workplace.

Potential negative health effects of extending the second-hand smoke regulation were also noted during the public hearing. Some hospitality employers raised safety concerns about their workers enforcing the second-hand smoke

regulation. They stated that there were increases in violence and stress in their workplaces because of the previous regulation.

Reference to the science on health effects was made by submitters both opposed to and in support of the application of the second-hand smoke requirements to public entertainment and long-term residential facilities. Some argued that the science is not conclusive in showing that second-hand smoke causes adverse health effects and expressed specific concerns about the epidemiological methods employed in some of these studies. Others argued that the science is very clear in this regard. A number of comments were made about science being biased or cooked. Submitters opposed to the extension of the requirements to public entertainment facilities cited that the U.S. Environmental Protection Agency's (EPA) decision to list ETS as a class "A" carcinogen was overturned by the courts. Submitters in favour pointed to articles showing that studies funded by the tobacco industry nearly always find no health effects from second-hand smoke, while other studies nearly always find adverse health effects.

The WCB conducted a review of the medical/scientific literature on the health effects of second-hand smoke. *The Summary and Review of the Health Effects Literature* concluded that:

- Exposure to ETS has been linked to increased rates of: lung, sino-nasal, and breast cancers; cardiovascular and cerebrovascular diseases; respiratory disease and related disorders; and reproductive and developmental effects.
- There are relatively small, but significant, increases in risk of lung cancer and heart disease in non-smokers from exposure to second-hand smoke. In addition to lung cancer and heart disease, second-hand smoke has been shown to cause other adverse health effects, such as developmental effects (e.g., low birthweight infants), and non-malignant respiratory and related disorders (asthma in children, and eye and nasal irritation in adults). Second-hand smoke exposure has also been associated with increased risks for: breast and sino-nasal cancer, cerebrovascular disease, and reproductive disorders. More research is needed in each of these areas, however, before any conclusions regarding causation can be drawn.
- For lung cancer, the excess risk appears to be in the range of about 20 to 30%, while for heart disease it appears to be in the range of 20 to 25%.<sup>13</sup> Although these excess risks may seem small, even small increases in risk will have a significant impact on the burden of disease for conditions that are prevalent in the population.

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<sup>13</sup> This means that those exposed to second-hand smoke have an approximate 1.2 - 1.3X higher risk of developing lung cancer and an approximate 1.2-1.25X higher risk of developing heart disease compared to those not exposed to second-hand smoke.

- Although most of the published studies have focussed on second-hand smoke exposure in the home, a number of review articles comparing risks across multiple studies have concluded that the risk estimates for workplace exposure were consistent with those for spousal exposure.
- A number of well-recognized, international agencies have designated second-hand smoke as a known human carcinogen. Following comprehensive reviews of the literature, several international governmental agencies have also concluded that second hand exposure increases the risk of coronary heart disease.
- It is unlikely that the increased risks observed in the literature for lung cancer and heart disease, in particular, are due to bias or confounding.<sup>14</sup>

A large number of peer-reviewed studies have examined the health benefits associated with restricting smoking in the workplace and particularly in restaurants and bars. Increased health benefits may be achieved through two means. First, exposure to second-hand smoke in the workplace would be eliminated with associated reductions in smoke-related diseases and deaths within the non-smoking worker population. Second, it is likely that a smoke-free workplace will induce some workers who currently smoke to quit or cut back, and may reduce the likelihood of some workers from acquiring the habit in the first place.

Hospitality workers may be at a greater risk than most because the nature of the environment often demands prolonged exposure to second-hand smoke. Studies targeting the hospitality industry suggest that employees in restaurants where smoking is not restricted actually experience greater second-hand smoke exposure than someone living with a smoker. Other studies demonstrate the high levels of second-hand smoke pollutant levels found in hospitality workers and the causal effects of those pollutants.

Eliminating workers' exposure to ETS and lowering smoking prevalence among workers is thus expected to improve workers' health by reducing their risk of cancer, heart disease, and other various tobacco-related illnesses. Given the variable nature of second-hand smoke exposure in restaurants and bars throughout BC and the lack of good information on hospitality workers' lifestyle and smoking characteristics, it was not feasible to quantify these health benefits specifically for BC workers. Nevertheless, it is recognized that adopting the proposed amendment would result in significant improvements in health.

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<sup>14</sup> Bias means any trend in the collection, analysis, interpretation, publication, or review of the data that can lead to conclusions that are systematically different from the truth. Confounders are variables that affect the outcome of interest and are also associated with the risk factor under investigation. These must be controlled for otherwise the outcome may be linked to the risk factor when it is actually due to the confounders.

According to the BC Ministry of Health, every year, approximately 500 non-smokers in BC die from diseases brought on by second-hand smoke. Thousands more become sick.<sup>15</sup> The Ministry claims that every year \$500,000,000 goes directly towards the treatment of health problems caused by tobacco use in BC.<sup>16</sup>

A study by the US Centers for Disease Controls and Prevention (CDC)<sup>17</sup> recently estimated that there has been a 14 per cent decrease in cancer of the lung and bronchus over the past 10 years in California. Other regions of the US reported only a 2.7 decrease over the same period. The study states that this difference may be related in part to the significant declines in smoking rates in California as a result of California's tobacco control initiatives. The study finds that smoking rates in California declined more than twice as rapidly compared with the rest of the US. It was also estimated that tobacco control initiatives in California and the associated decrease in smoking would result in an estimated 3000–4000 fewer lung cancer cases and more than 2000 fewer deaths in 2000 in California.<sup>18</sup>

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<sup>15</sup> Ministry of Health website: [www.tobaccofacts.org/tobacctruth1.htm](http://www.tobaccofacts.org/tobacctruth1.htm).

<sup>16</sup> Ministry of Health, News Release, June 16, 1997, (1997:124).

<sup>17</sup> Center for Disease Controls, *Declines in Lung Cancer Rates – California, 1988-1997. Morbidity and Mortality Weekly Report*, December 1, 2000/49(47);1066-9.

<sup>18</sup> California Department of Health Services News Release Number 65-00, Nov. 30, 2000.



ACCOUNT	Adoption of Proposed Amendments (Option 2)
<b>Benefit</b>	<p>declines in the second month (February 2000).</p> <p>Establishments in the rural areas of BC were not measurably impacted in a negative way by the extension of the WCB second-hand smoke requirements to the hospitality sector.</p> <p>Border regions in January 2000 were not impacted to a greater degree than the province as a whole. The coefficients for February and March were not significant and showed no statistical difference to the provincial results.</p> <p>The proposed amendments would create a more equal playing field amongst the hospitality sector as all employers would be subject to the same restrictions regardless of region.</p>
<b>Worker Impact</b>	<p><b>Cost</b> No marked increase in unemployment in hospitality-related occupations during the time the WCB second-hand smoke requirements applied to the hospitality sector was found. Although a reduction of working hours and tips may have occurred, based on the findings that the business impacts will be neutral in the long-term, it is expected that this potential negative impact would also neutralize in the long-term.</p> <p><b>Benefit</b> Worker benefits are set out in the health impact account below.</p>
<b>Health Impact</b>	<p><b>Cost</b> Some employers claim that proposed amendments may lead to increases in workplace violence and stress.</p> <p><b>Benefit</b> The benefits to the health of workers are difficult to quantify, but it is expected that a reduction in smoke-related illness and deaths (and associated costs) would occur as workers and non-smoking patrons would no longer be exposed to second-hand smoke in their workplaces. Secondary benefits, such as a reduction in the number of smokers would also be likely.</p>

## **Issue 8: Will there be an impact on British Columbia's competitiveness?**

Some may question whether extending the second-hand smoke requirements to public entertainment facilities would have any direct effects on BC's competitiveness.

From an establishment-level perspective, some businesses would be more competitive (the ones which are able to attract sufficient non-smoking clientele or who install designated smoking rooms) while others would become less competitive. However, from a strictly economic perspective, the money not spent in restaurants and bars would be spent elsewhere. As a consequence, the impact on the province generally would be neutral.

There are, however, two exceptions to this conclusion. The first is that smoking restrictions may cause BC residents to cross into other jurisdictions (Alberta and/or US) to frequent restaurants, bars and casinos in those locations. Second, the proposed amendment may reduce the number of tourists visiting BC. In either case, BC's competitiveness can be affected. So the question becomes, would the proposed amendments increase BC residents likelihood of travelling outside the province to drink and/or would the proposed amendment decrease visits to BC?

A review of the impacts on regions in BC close to the Alberta or US borders shows that that there was no statistical difference in overall impacts as compared to the province as a whole. Consequently, being close to a border did not result in greater losses of business. Thus, although some establishments may have experienced loss in clientele, the general conclusion is that the proposed amendments would not impact on BC's competitiveness in terms of customers frequenting out-of-province restaurants and bars.

In order to test the hypothesis that smoke-free bylaws reduce tourism activity, a regression methodology was used that compares the ratio of real accommodation revenues in the Capital Regional District (CRD) to real accommodation revenues in the rest of BC. The hypothesis is that if the amendment negatively influences tourism, then accommodation revenues in the CRD should become relatively smaller.

The finding of this review was that long-run tourism activity in the CRD was not negatively affected by the introduction of the CRD's no-smoking bylaw. As such, the statistics suggest that the application of the second-hand smoke requirements to the hospitality industry in all of BC would cause neither a substantive dislocation of BC residents to drink and dine in Alberta and US facilities nor an impact on tourist visits to BC.

**9. How will a policy that is clear, consistent, comprehensible and accessible to users be assured?**

If amendments to the second-hand smoke requirements are made, stakeholders would be provided with plain language materials that clearly set out the requirements for compliance. The package would also include responses to Frequently Asked Questions.

**10. Have all the parties had the opportunity to present their views?**

The WCB held a formal public hearing on this issue in four locations across the Province: Richmond, Prince George, Kelowna and Nanaimo. Notice of the public hearing was published in all daily newspapers in BC and in Part 1 of the BC Gazette.

In total, seventeen sessions were held. A member of the Panel of Administrators was present at each session. All those who wished to be heard were accommodated. In addition to the oral hearing process, written submissions were accepted by mail, fax, e-mail and in person.

The WCB's Policy and Regulation Development Bureau carried out a review of the public hearing submissions with the assistance of staff from the Prevention Division and Occupational Disease Services. Each submission was carefully reviewed and entered into a database. In addition, relevant comments contained within each submission were extracted and organized by category. Once this initial review was complete, reviews of the database report and summaries were conducted. The outcome of the public hearing will form a significant part of the decision-making document used by the Panel of Administrators in its deliberations.

**11. What are the views of front-line staff?**

Front-line staff attended the public hearing and was involved in the review of this issue.

Consultation was undertaken with staff at the Liquor Control and Licensing Board and the Corrections Branch of the Ministry of Attorney General.