GROUPE D'ANALYSE
CONSEILS en ÉCONOMIE, FINANCE et STRATÉGIE
Téléphone 1 514 394 4460 Télécopieur 1 514 394 4461 www.analysisgroup.com
1080 Côte du Beaver Hall Bureau 1810 Montréal, QC H2Z 1S8

[TRANSLATED FROM THE ORIGINAL FRENCH
BY THE QUEBEC COALITION FOR TOBACCO CONTROL]*

*[** THE ORIGINAL FRENCH VERSION HAS PRECEDENCE
OVER THE ENGLISH TRANSLATION]*

UPDATE ON SMOKING COSTS TO SOCIETY

Analysis Report Prepared for:

Québec Coalition for Tobacco Control
819 Roy Street East
Montréal, Québec H2L 1E4

January 15th, 2004

INTRODUCTION

The effects of tobacco use on one's health are well known, and are documented in detailed and reliable scientific reports. In 2001, Health Canada estimated that 21%[1] of deaths in Canada were attributed to smoking. On the other hand, estimates for the total cost of smoking incurred by the whole of society, vary considerably.

In Canada, few studies have been released concerning the evaluation of costs related to smoking. For example, Single *et al*. (1996) and Kaiserman (1997) have evaluated, for 1992 and 1991, respectively, direct health care costs (hospitalization, medical care, and drugs), indirect productivity and revenue losses due to illness and death, and tobacco-related fire expenses. As for the Conference Board of Canada (1997), its studies were limited to the estimated cost to employers: increased absenteeism, decreased productivity, increased insurance premiums, and operating and maintenance costs for smoking areas. However, these figures are drawn from studies that are a few years old and do not include certain costs, such as those caused by second-hand smoke.

Consequently, the present study provides an overview of the costs attributable to smoking, based on various sources, and provides updated data for 2002. Where more recent data were available, the methodology of previous studies was replicated and new estimates were calculated. When this was not possible, we updated the figures quoted in reports, taking into account a price index. This update allows to compare the total amount of taxes generated by smoking with the total costs attributable to smoking, and to determine whether there is a shortfall for society.

Costs resulting from smoking can be grouped under six main categories: (1) health care costs, (2) costs incurred by employers, (3) prevention and research costs, (4) costs of fires caused by smoking, (5) costs linked to premature death, and (6) costs specific to second-hand smoke. This analysis reviews and updates these costs, and quantifies them on an annual basis (in 2002 dollars). We give a description of the methods used to calculate each cost and indicate the origin of data used. Hence, it is possible to determine the proportion of the total cost attributable to each category.

1. HEALTH CARE COSTS

Direct health care costs attributed to smoking consist of three elements: hospital care expenses, medical care expenses, and drug expenses.

1.1 Hospital and Medical Care Expenses

In order to evaluate health expenses due to smoking, we refer to a study conducted by Harrison, Feehan, Edwards, and Segovia (2003), which is the most recent one based on Canada data. Its strength lies in the use of an econometric approach, rather than that of relative risk[2]. In fact, approaches in terms of relative risk limit expenses to the scope of illnesses for which there is sufficient medical evidence linking them to smoking (for example,

[1] Makomaski Illing and Kaiserman (2004) found that 25% of deaths in Canada were attributable to tobacco use in 1998. This figure is higher than that of Health Canada since it includes passive smoking and associated children's deaths.

[2] For an approach in terms of relative risks, see Kaiserman (1997).

lung cancer). Yet, other illnesses, not initially caused by tobacco, could be complicated or aggravated by smoking. Hence, an econometric approach is more general, as it takes into account some of these indirect effects also requiring health care.

Harrison *et al*. (2003) estimate that among the adult population of Newfoundland, 12.4% of hospital costs and 7% of expenses in doctors' visits were attributable to smoking during the 1992-1999 period. In Newfoundland, however, the smoking rate is slightly higher than for the rest of Canada in 2001: 25.7% in Newfoundland versus 21.7% in the rest of Canada. Consequently, we can adjust the proportions of health costs attributable to smoking in Newfoundland by 84.4% (21.7/25.7) to obtain those for the whole of Canada. Thus, on a national level, we find that 10.5% of hospital costs and 5.9% of expenses in doctors' visits were attributable to smoking.

The Canadian Institute for Health Information (CIHI)[3] provides relevant information on health expenses by allocation of fund in Canada for 2001. Hospital costs totaled $32,396.7 M and expenses in doctors' visits $13,978.4 M. To determine expenses attributable to smoking, we first converted these figures into 2002 dollars, and then applied the rate of health care use by the adult population[4] and the share of costs attributable to smoking. The rates of hospital and medical services used by the adult population were calculated by multiplying the share of the whole adult population (20 years and older) by factors reflecting the higher use of health care by adults than by children. According to Harrison *et al*. (2003), these rates are 1.22 for hospital services and 1.18 for doctors' visits respectively. As adults represent 75% of the Canadian population[5], the utilization rates of hospital and medical services by the adult population are 91.5% and 88.5% respectively. Details of these calculations are shown in Table 1.

Table 1:
Hospital and Medical Care Expenses

		Hospitals	Doctors	Total
Total expenses in 2001 (in current dollars)	(A)	32,396,700,000	13,978,400,000	
Total expenses in 2001 (in 2002 dollars)	(B)	33,120,340,000	14,290,630,000	
Proportion used by adults	(C)	91.5%	88.5%	
Share of expenses attributable to tobacco	(D)[6]	10.5%	5.9%	
Expenses attributable to tobacco for the adult population (in 2002 dollars) (= B*C*D)		**$3,182,036,666**	**$746,185,245**	**$3,928,221,911**

1.2. Prescription Medication Expenses

Studies by Single *et al*. (1996) and Kaiserman (1997) produce figures that are quite different with regard to additional costs in prescription medication due to smoking. Single *et al*. (1996) found a cost of approximately $500 million, while Kaiserman (1997) estimate it to $22

[3] http://secure.cihi.ca/cihiweb/en/media_17dec2003_tab_c.1.1_e.html (site visited January 14th, 2004).

[4] The rates of health care use calculated by Harrison et al. (2003) relate only to the adult population. Total expenses provided by the CIHI however, relate to the whole population.

[5] Statistics Canada (2003).

[6] Harrison et al. found 12.4% and 7% which we have adjusted, taking into account the lower incidence of smoking in the whole of Canada compared to Newfoundland.

million. This difference stems from Kaiserman's subtraction of the updated cost of unused medication following death (medication that would have been used had the person not died prematurely).

By using the inflation rate of prescription medication, as well as the varying number of smokers between 1992 and 2002, we obtain cost estimates for 2002 of $427 M and $21 M, for Single *et al*. (1996) and Kaiserman (1997), respectively. As we deem Kaiserman's method more appropriate, we have retained the amount of $21 M for the cost of prescription medication.

Therefore, annual costs in health care (hospitalization, medical care, drugs) resulting from smoking amount to $3,928 M in 2002.

2. COSTS INCURRED BY EMPLOYERS

In this section, we estimate the additional cost, from the employers perspective, of a position held by a worker who smokes, as compared to one filled by a non-smoker. Our evaluation of this additional cost is based on the following four factors: increased absenteeism, decreased productivity, higher life insurance premiums, and maintenance costs of smoking areas.

2.1. Increased Absenteeism

In order to estimate the cost of absenteeism attributable to smoking in Canada, it is necessary to calculate the following [Parrott, Godfrey, Raw (2000)]:

- Prevalence of smoking amongst employees in Canada;
- Labour productivity;
- Additional absenteeism of smokers, compared to non-smokers.

Smoking prevalence in the Canadian population is estimated at 24% for men and 20% for women. This prevalence is applied to the labour force in order to obtain an estimate of the total number of smoking employees in Canada.

To calculate the loss of productivity caused by smoking, we used the approach of human capital and assume that the value of productivity loss is equal to the wage. Average wages are used to approximate labor productivity. In Canada, in 2002, the average hourly wage for employees was $19.62 for men and $15.98 for women.

Data on differences in absenteeism between smokers and non-smokers are drawn from the 1994 *Enquête sociale générale*, by Statistics Canada[7]. The average number of sick days for current smokers and former smokers was estimated at 13.5 per year, and 11. for those who never smoked. Therefore, non-smokers were absent 1.8 days less per year than smokers.Table 2 summarizes the different stages of calculation (in 2002 dollars).

[7] This is the latest survey available for this type of information.

Table 2:
Cost of Increased Absenteeism

		Male Employees	Female Employees	Total
Number of employees	(A)	6,708,100	6,470,800	13,179,000
Prevalence of smoking	(B)	24%	20%	
Estimated number of employees who smoke (C=A*B)		1,609,944	1,294,160	2,904,104
Number of additional hours of absence per year for smokers	(D=1,8*8*C)	23,183,194	18,635,904	41,819,098
Average salary per hour in 2002	(E)	$19.62	$15.98	
Cost of absenteeism	**(=D*E)**	**$454,854,258**	**$297,801,746**	**$752,656,004**

The total cost of smoking in terms of increased absenteeism is thus evaluated at over $750 million per year.

2.2. Decreased Productivity

This category quantifies the cost to employers due to employees taking cigarette breaks during the workday. Our evaluation is based on the methodology used by the Conference Board of Canada (1997). The calculation applies only to employers who do not allow employees to smoke in their immediate workplace. The annual productivity loss results from the fact that employees leave workplace to smoke.

According to the latest *Enquête de surveillance de l'usage du tabac au Canada* (2001), the average Canadian smoker has a daily consumption of about 16 cigarettes (approximately 17 cigarettes daily for men and 15 cigarettes daily for women).If we assume, as in the Conference Board of Canada study, that an individual sleeps for 8 hours, the period of eight hours of work represents half the time an employees is awake. When an employee is not allowed to smoke in the workplace, there is usually a tendency to smoke more outside of work hours. We assume therefore, that only one quarter of cigarettes smoked during the day (4) are consumed during work hours. If an employee smokes one cigarette at each of two breaks and one at lunch- time, there remains one to be smoked during time that is not designated as a break period.

Assuming that an employee requires ten minutes to smoke a cigarette and five minutes to get to the smoking area and back, a smoker spends in total an average of fifteen minutes per day on smoking rituals, hence wasted time. We used the average hourly wage to calculate the opportunity cost of smoking. To express this cost on an annual basis, we determined the number of workdays in a year. Since the calendar year consists of 365 days, we excluded 104 days for weekends, 10 for holidays, 15 for vacation days, and 7 for sick days[8], thus leaving 229 workdays. Table 3 summarizes the different stages of calculation (in 2002 dollars).

[8] According to Statistics Canada's *Enquête sur la population active* (2001), the number of sick days corresponds to the average number of days a worker looses in Canada due to illness or incapacity.

Table 3:
Cost of Decreased Productivity

		Male Employees	Female Employees	Total
Number of employees	(A)	6,708,100	6,470,800	13,179,000
Prevalence of smoking	(B)	24%	20%	
Estimated number of employees who smoke (C=A*B)		1,609,944	1,294,160	2,904,104
Number of hours per day allotted to the ritual of smoking	(D=0,25*C)	402,486	323,540	726,026
Number of hours per year allotted to the ritual of smoking	(E=229*D)	92,169,294	74,090,660	166,259,954
Average salary per hour in 2002	(F)	$19.62	$15.98	
Cost of decreased productivity	**(=E*F)**	**$1,808,361,548**	**$1,183,968,747**	**$2,992,330,295**

The total cost of smoking in terms of decreased productivity is thus evaluated at close to $3 billion per year.

2.3. Increased Life Insurance Premiums

According to the Conference Board of Canada (1997), the formula used to calculate the additional cost of life insurance premiums attributable to employees who smoke is as follows:

$$Cost_{\ life\ insurance} = \frac{Premium_{\ average}\ x\ discount}{1 - discount + \%\ Smokers\ x\ discount} \qquad (1)$$

where $Premium_{average}$ is the average life insurance premium per employee; *discount*, the average life insurance discount for non-smokers ; and *% Smokers*, the percentage of smokers in the population. Since this is the cost per individual, it must be multiplied by the estimated number of smokers to obtain the estimated total cost.

To estimate the average group life insurance premium, the total premiums paid in 2002 were divided by the number of employees in that year. According to the Office of the Superintendent of Financial Institutions, the group life insurance premiums totaled $2.4 billion. The number of employees was 13,179,000.

According to a sample of life insurance companies provided by LifeGuideMD [figure quoted by the Conference Board of Canada (1997)], the average discount on life insurance premiums relating to non-smoking policy-holders was approximately 35%.

Finally, the rate of prevalence of tobacco use on a national scale was 22%, hence the following estimate (in 2002 dollars).

Table 4:
Cost of Increased Life Insurance Premiums

		Total
Estimated number of employees who smoke	(A)	2,904,104
Total amount of life insurance premiums	(B)	2,380,693,000
Number of employees	(C)	13,179,000
Average life insurance premium per employee	(D=B/C)	$180.64
Discount	(E)	35%
Prevalence of Smoking	(F)	22%
Cost of increased life insurance premiums per smoker	(G = equation 1)	$86.97
Total annual cost of increased life insurance premiums	**(=A*G)**	**$252,561,260**

The total annual cost of smoking in terms of increased life insurance premiums is slightly over $250 million.

2.4 Cost of Smoking Areas

According to the Conference Board of Canada (1997), annual costs relating to construction, operation, and maintenance of smoking areas in the workplace for 1995 totaled $85 per employee who smoked. In the absence of more recent information on this subject, we base our estimate for 2002 on this figure.

Table 5:
Cost for Smoking Areas

		Total
Number of employees	(A)	6,708,100
Prevalence of smoking	(B)	24%
Estimated number of employees who smoke	(C=A*B)	1,609,944
Cost of smoking areas per employee who smokes (in 1995 dollars)	(D)	$85
Cost of smoking areas per employee who smokes (in 2002 dollars)[9]	(E=D*119/104.2)	$97
Total annual cost of smoking areas	**(=C*E)**	**$156,164,568**

The total annual operating and maintenance cost of smoking areas is slightly over $156 million.

In short, smoking related costs to employers were about $4,154 billion per year.

3. PREVENTION AND RESEARCH COSTS

In 2002, the Federal Strategy against smoking had a five-year budget of approximately $560 million. The strategy consists of a comprehensive approach against smoking, that includes initiatives on protection, prevention, cessation, and harm reduction, all based on research, legislative measures, and media activities[10].

[9] For conversion, we used the consumer price index based on 1992. This index was worth 104.2 for 1995 and 119 for 2002.

[10] Health Canada

We estimate therefore that in 2002, the annual minimum cost for prevention and research amounted to $112 M.

4. COSTS OF FIRES DUE TO TOBACCO

The cost of home fires related to smoking was drawn directly from the most recently published data by the Canadian Council of Provincial Managers and fire commissioners. Their report indicates that in 2000, losses caused by fire originating from a smoker reached $56,720,971, which corresponds to 59,469,564 in 2002 dollars[11].

According to Kaiserman (1997), the cost of forest fires attributable to tobacco was estimated at 10% of total costs, or $22 M in 1991. The equivalent 2002 figure was 26 million [12].

Table 6:
Cost of Fires Due to Tobacco

	Total
Cost of forest fires	26,000,000
Cost of home fires	59,469,564
Total cost of fires	**$85,469,564**

The annual cost of losses caused by fires related to tobacco is $85 million.

5. COSTS ASSOCIATED WITH SMOKERS' PREMATURE DEATH

The premature death of smokers deprives society and the smoker's family of significant income during the most productive years of life. Hence, early mortality creates a cost that should be taken into account when calculating smoking costs. Both Kaiserman (1997) and Single *et al.* (1996) have evaluated these costs.

Kaiserman's methodology (1997) updates current and future lost income due to premature death, using the following parameters:

- Number of people who died from smoking;
- Average salary they would have received for the remainder of their life;
- Adjusted rate so as to state future income in terms of today's dollar.

Kaiserman (1997)'s methodology is applied to the 2002 data, but taking into account the proportion of workers in each age group. We obtained a total cost of $6,416 million for 2002.

[11] For conversion, we used the consumer price index based on 1992. This index was 113.5 in 2000 and 119 in 2002.

[12] For conversion, we used the consumer price index based on 1992. This index was 98.5 in 2000 and 119 in 2002.

Table 7:
Loss of Revenue Due to Premature Deaths Attributable to Smoking

	Deaths attributable to smoking[13]	Average income of age bracket[14]	Total loss of income (in millions)
Men	**32,912**	NA	$4,492
35-44	1,923	42,179	$1,157
45-54	3,387	44,728	$1,383
55-64	6,932	28,395	$1,171
65-74	11,878	3,890	$504
75 +	8,791	3,890	$277
Women	**17,771**	NA	$1,924
35-44	107	23,342	$35
45-54	1,892	23,779	$429
55-64	4,404	10,976	$571
65-74	7,944	7,771	$673
75 +	3,424	7,771	$216
Total			$6,416

Single *et al*. evaluate the premature mortality cost attributable to tobacco at $6.7 billion for 1992. Converting this number to 2001, adjusting for salary increases, inflation, and the decrease in the number of smokers, we arrive at a cost of $7,3 billion[15].

To keep a conservative estimate, we evaluated revenue losses due to premature deaths attributable to smoking for 2002 at $6.4 billion.

6. COSTS ASSOCIATED WITH SECONDHAND SMOKE

To our knowledge, no study on the evaluation of costs attributable to secondhand smoke has yet been done on Canadian data. In the United States, on the other hand, costs associated with secondhand smoke are estimated to vary between $56 US and $490 US per smoker, per year [Kristein (1983), Jackson and Holle (1985)]. The most recent study was conducted on the population of Marion County, in Indiana [Zollinger et al. (2002)]. It shows that health care costs for adults and children and lost revenue due to premature death attributable to exposure to secondhand smoke, reached $56.2 million US in 2000. Of Marion County's 800 000 population in 2000, 28.2% were smokers. Thus, according to this study, the total costs attributable to secondhand smoke in 2001 would have been $250 US per smoker. (Note that this figure remains within the range of the previously mentioned studies.)

Assuming that the Canadian per smoker costs are comparable to those of the United States, it is possible to obtain an estimate of the costs generated by secondhand smoke in Canada by converting the $250 US of 2000 to 2002 Canadian dollars, and multiplying this amount by the

[13] These figures are calculated based on data from Table 2.4 of Hara Associates (2000) and from Kaiserman's Table 1distribution (1997).

[14] Adjusted for the proportion of workers. Required data was taken from Statistics Canada's Website on the 2001 census.

[15] The data used was drawn from the Canadian Council Tobacco Control's Website, as well as from sections in "Le Canada en statistique" et "Recencement" from Statistics Canada's Website.

number of estimated Canadian smokers. The details of these calculations are shown in the following table.

Table 8:
Costs Associated with Secondhand Smoke

		Total
Estimated number of smokers	(A)	2,904,104
Costs of secondhand smoke per smoker (in 2000 US dollars)	(B)	250
United States/Canada exchange rate in 2000[16] (in 2000 CAN dollars) (C)		1.48520240
Costs of secondhand smoke per smoker (in 2002 CAN dollars)[17] (D=B*C*119/113.5)		389.3
Total cost attributable to secondhand smoke (in 2002 dollars)	**(=D*A)**	**$1,130,547,765**

Health care costs for adults and children, and costs related to lost revenue due to premature death attributable to secondhand smoke reach $1,130 billion dollars.

The total costs attributable to the effects of tobacco use are summarized below.

	In millions of dollars (2002)	Percentage of total cost
Costs for health care	*3,928*	*24.92%*
- hospitals	3,182	20.08%
- doctors	746	4.71%
- medications	21	0.13%
Costs incurred by employers[18]	*4,154*	*26.21%*
- absenteeism	753	4.75%
- productivity loss	2,992	18.88%
- increased life insurance premiums	253	1.60%
- costs for smoking areas	156	0.98%
Costs for prevention and research	*112*	*0.71%*
Costs due to fire	*85*	*0.54%*
Costs associated with premature death	*6,416*	*40.49%*
Costs associated with secondhand smoke	*1,131*	*7.14%*
TOTAL COST OF SMOKING	**15,847**	100%

In Canada, total costs attributable to smoking for 2002 reached $15,8 billion dollars.[19]

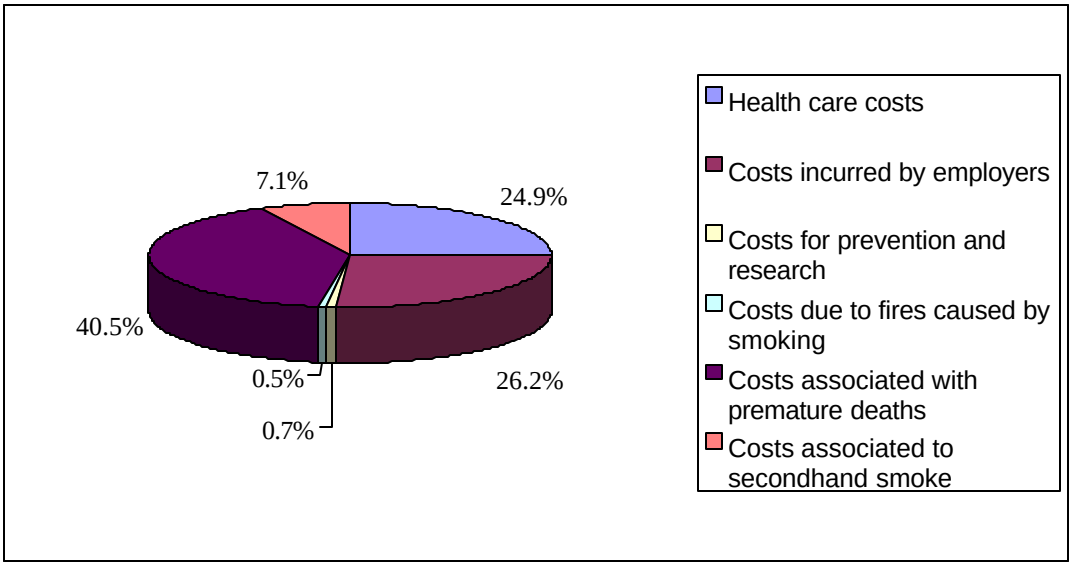
[16] Bank of Canada (Department of Capital Markets) (2000), *Monthly average exchange rates*.

[17] For conversion, we used the consumer price index based on 1992. This index was 113.5 in 2000 and 119 in 2002.

[18] We can argue that increased life insurance premiums are not a cost per se, but rather a transfer of wealth in time (proceeds will be given over a longer period of time to the survivors). Additionally, the inclusion in calculating the cost of smoking areas in workplaces could also be questioned by today's standards as it is now prohibited to smoke in workplaces. We have nevertheless included these costs in our calculations so as to retain figures comparable to those of the Conference Board.

[19] In Canada, the smoking rate for the population aged 15 years and older is 21.7%, which represents 5,407 million smokers. In Québec, the smoking rate is 24.1%, which represents 1,452 million smokers. We can therefore assume that the total attributable costs due to smoking in Quebec are approximately $4,3 billion

Figure 1
Total Costs Attributable to Smoking in 2002:

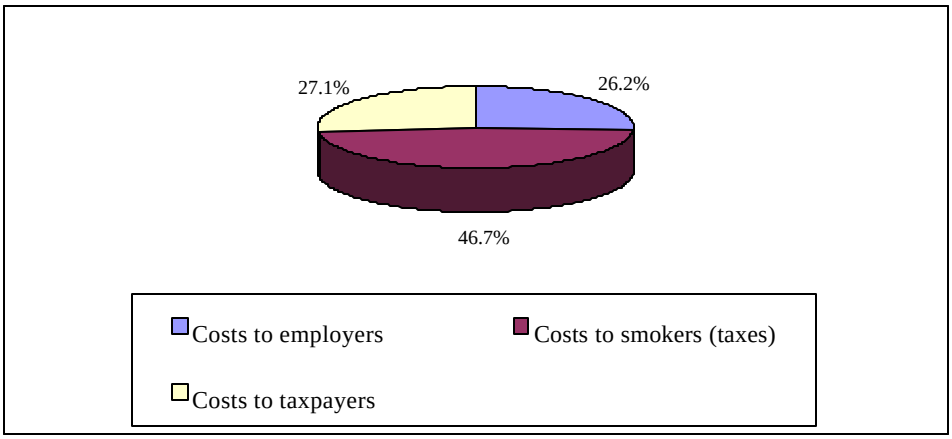


CONCLUSION: SHORTFALL FOR SOCIETY

For 2002, the estimated annual costs of smoking in Canada reached $15,8 billion dollars, of which $6,4 billion were for revenue losses caused by premature death, and $3,9 billion dollars for health care expenses. Costs associated with secondhand smoke are far from negligible, as they represent more than a million dollars per year.

Employers support 26% of the total cost of smoking, or $4,2 billion. The remainder ($11.7 billion) is supported by taxpayers and governments. According to a study by JTI-Macdonald Corp. and Imperial Tobacco Canada, taxes constituted 68.1% of the cost of one package of superior quality legal cigarettes in 2002, which represented $7,4 billion in revenues for the Government[20]. Consequently, the tobacco industry's shortfall for taxpayers would be $4.3 M (i.e., 11.7 – 7.4) per year. The chart below shows the share of costs of tobacco use incurred by employers, smokers, and taxpayers respectively.

Figure 2:
Costs of Smoking Share to Employers, Smokers, and Taxpayers.



[20] Taxes paid on tobacco manufacturers' profits and their employees' revenues were voluntarily excluded from our analysis, since the tobacco industry's profits would have been transferred to other sectors in the absence of this industry. Similarly, tobacco workers would have worked in other sectors, and we have no reason to think that they would not have paid equivalent taxes.

BIBLIOGRAPHY

Conference Board of Canada (1997), « Bilan de la consommation de tabac : les coûts de l'usage du tabac en milieu du travail », Janvier.

Hara Associates Inc. (2000), Benefit /Cost Analysis of Proposed Tobacco Products Information Regulations, Rapport pour Health Canada & Consulting & Audit Canada.

Harrison G., J. Feehan, A. Edwards and J. Segovia (2003), "Cigarette Smoking and the Cost of Hospital and Physician Care", *Canadian Public Policy*, March 2003, **29**(3), 1-20.

Jackson FN. and RH. Holle (1985), "Smoking: perspectives 1985", *Primary Care*, **12**(2), June, 197-216.

Kaiserman, M. (1997), "The Cost of Smoking in Canada, 1991", Chronic Diseases in Canada, **18**(1).

Kristein MM. (1983), "How much can business expect to profit from smoking cessation?", *Preventive Medecine*, **12**(2), March, 358-81.

Makomaski Illing E. and Kaiserman M. (2004), "Mortality Attributable to Tobacco Use in Canada and its Regions, 1998", *Canadian Journal of Public Health*, 95(1), January-February, 38-44.

Parrott S., C. Godfrey et M. Raw (2000), "Costs of employee smoking in the workplace in Scotland", *Tobacco Control* **9**, 187-192.

Single E., L. Robson, X. Xie(3) et J. Rehm (1996), *The Costs of Substance Abuse in Canada.*

Zollinger T., R. Saywell, A. Overgaard et A. Holloway (2002), "The Economic Impact of Secondhand Smoke on the Health of Residents and Employee Smoking on Business Costs in Marion County, Indiana for 2000", *A Report for the Marion County Health Department.*

APPENDIX: TAX ON TOBACCO ET HEALTH COSTS IN QUEBEC

Although this study focuses mainly on Canada, and some of its components are not readily adapted to Quebec's context, it is easy to calculate health care costs due to smoking in Quebec. In fact, the cost of health care is largely the provinces' responsibility, and a standard extension of this update consists of comparing health care costs due to smoking for Quebec with revenues resulting from the provincial tax on tobacco.

Table A.1 below summarizes Table 1 of the report, but concerns Quebec only. The cost for health care (excluding medication) is more than one billion dollars. These costs exceed the 957 million[21] in foreseen revenue for the following fiscal year, even taking into consideration recent tax increases. As previously calculated, this discrepancy grows considerably if we add the social costs due to smoking in Quebec: based on calculations of the total cost shown in Figure 1 (see footnote), the difference then becomes more than $3 billion dollars.

Table A.1

Hospital and Medical Care Expenses (Québec)

		Hospitals	Doctors	Total
Total expenses in 2001 (in present dollars)	(A)	8,248,000,000	2,462,100,000	
Total expenses in 2001 (in 2002 dollars)	(B)	8,432,260,320	2,517,103,314	
Proportion of use by adults	(C)	0.9272	0.8968	
Share of expenses attributable to tobacco	(D)	0.11628	0.06564	
Expenses attributable to tobacco for the adult population (in 2002 dollars)	**(= B*C*D)**	**909,123,812**	**148,176,250**	**1,057,300,062**

[21] This amount includes $857 M already withdrawn and foreseen revenue resulting from tax increases.