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# The Economic Benefits of Reducing the Prevalence of Tobacco Smoking

## *In Quebec and Ontario*

### Executive Summary

In March of 2019 Canada's three largest tobacco companies asked for and received a court-ordered extension of the suspension on all tobacco litigation in Canada. The companies are facing at least \$500 billion in lawsuits, primarily from 10 Canadian provinces. This suspension was extended on February 20, 2020 until September 30, 2020 and we assume that legal teams for the provinces are actively attempting to reach an out-of-court settlement with the tobacco companies.

It is within this context that the *Coalition québécoise pour le contrôle du tabac* and *Physicians for a Smoke-Free Canada* are seeking information on the economic burden attributable to tobacco smoking, particularly in the provinces of Quebec and Ontario. More specifically, how might the healthcare costs avoided by reducing the prevalence of smoking in each province to 5% by 2035 compare with the proposed value of settlements negotiated with the tobacco companies? That is, is the economic value of an accelerated reduction in tobacco use (a phase out) negotiated with the tobacco companies of greater economic value than a proposed out-of-court settlement?

### Quebec

In 2000, in Quebec, an estimated 29.2% of the population ages 12 and older smoked (30.9% of males and 27.5% of females). This has decreased to an estimated 17.5% in 2018 (19.7% for males and 15.3% for females) or 1.3 million smokers (716,000 males and 563,000 females).

The total economic burden attributable to tobacco smoking in Quebec in 2018 is estimated at \$3.79 billion (ranging from \$3.27 to \$4.57 billion). Of this \$3.79 billion, \$1.20 billion (ranging from \$1.02 to \$1.48 billion) is for direct costs and \$2.59 billion (ranging from \$2.25 to \$3.09 billion) is for indirect costs.

Given current trends and estimated population growth, there would be an estimated 1,046,000 smokers in Quebec in 2035. This would decline to an estimated 405,000 smokers under the 5% scenario, or 641,000 fewer smokers. The reduction in the number of smokers under the 5% scenario consists of 426,000 (66% of the total) fewer light smokers, 172,000 (27%) fewer moderate smokers and 44,000 (7%) fewer heavy smokers.

This reduction in the number of smokers in the province, in turn, would lead to a reduction in the economic burden attributable to tobacco smoking of \$1.33 billion (ranging from \$1.12 to \$1.56 billion) in 2035, with \$424 million (ranging from \$359 to \$499 million) in direct costs and \$903 million (ranging from \$765 to \$1,062 million) in indirect costs. Cumulatively, costs avoided between 2020 and 2035 are estimated at \$12.7 billion, ranging from \$10.7 to \$14.9 billion (using constant 2018 dollars).

Between 2008 and 2017, Quebec saw an average annual increase of 4.69% in health care expenditures. If we assume a similar annual rate of increase through 2035, the 5% scenario in Quebec would lead to a reduction in the economic burden attributable to tobacco smoking of \$2.89 billion (ranging from \$2.45 to \$3.40 billion) in 2035 and cumulative costs avoided between 2020 and 2035 of \$22.2 billion (ranging from \$18.8 to \$26.1 billion) (see following table).

<b>Annual Direct and Indirect Costs Avoided, Quebec</b>													
Adjusted for Inflation, by Cost Category													
2019 - 2035, Ages 12+													
(\$,000,000)													
Year	Target	Annual Cost Avoided			Cost Avoided by Direct Cost Category					Cost Avoided by Indirect Cost Category			
	Prevalence	Direct	Indirect	Total	Hospital	Physician	Drug	Other	Total	Mortality	LTD	STD	Total
2019	17.1%	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
2020	15.4%	\$14.3	\$30.6	\$44.9	\$7.3	\$1.5	\$1.6	\$3.9	\$14.3	\$21.1	\$6.0	\$3.4	\$30.6
2021	13.7%	\$44.1	\$94.2	\$138.3	\$22.3	\$4.7	\$5.0	\$12.0	\$44.1	\$65.1	\$18.5	\$10.6	\$94.2
2022	12.2%	\$88.9	\$190.0	\$278.8	\$45.0	\$9.5	\$10.1	\$24.3	\$88.9	\$131.3	\$37.4	\$21.3	\$190.0
2023	10.8%	\$144.8	\$306.0	\$450.8	\$73.3	\$15.5	\$16.4	\$39.5	\$144.8	\$211.4	\$60.2	\$34.3	\$306.0
2024	9.7%	\$210.6	\$439.4	\$650.1	\$106.7	\$22.6	\$23.8	\$57.5	\$210.6	\$303.6	\$86.5	\$49.3	\$439.4
2025	8.8%	\$279.6	\$579.6	\$859.3	\$141.6	\$30.0	\$31.6	\$76.3	\$279.6	\$400.5	\$114.1	\$65.1	\$579.6
2026	8.0%	\$349.8	\$722.7	\$1,072.5	\$177.2	\$37.6	\$39.6	\$95.5	\$349.8	\$499.3	\$142.2	\$81.1	\$722.7
2027	7.4%	\$417.1	\$861.5	\$1,278.6	\$211.3	\$44.8	\$47.2	\$113.9	\$417.1	\$595.3	\$169.6	\$96.7	\$861.5
2028	6.9%	\$481.7	\$996.6	\$1,478.2	\$244.0	\$51.7	\$54.5	\$131.5	\$481.7	\$688.6	\$196.1	\$111.9	\$996.6
2029	6.4%	\$545.6	\$1,132.2	\$1,677.8	\$276.3	\$58.6	\$61.7	\$148.9	\$545.6	\$782.3	\$222.8	\$127.1	\$1,132.2
2030	6.0%	\$609.0	\$1,269.3	\$1,878.3	\$308.5	\$65.4	\$68.9	\$166.2	\$609.0	\$877.0	\$249.8	\$142.5	\$1,269.3
2031	5.7%	\$670.9	\$1,404.9	\$2,075.7	\$339.8	\$72.0	\$75.9	\$183.1	\$670.9	\$970.7	\$276.5	\$157.7	\$1,404.9
2032	5.5%	\$731.7	\$1,539.0	\$2,270.7	\$370.6	\$78.6	\$82.8	\$199.7	\$731.7	\$1,063.4	\$302.9	\$172.8	\$1,539.0
2033	5.3%	\$792.8	\$1,674.1	\$2,466.9	\$401.6	\$85.1	\$89.7	\$216.4	\$792.8	\$1,156.7	\$329.5	\$187.9	\$1,674.1
2034	5.2%	\$857.3	\$1,817.1	\$2,674.4	\$434.2	\$92.1	\$97.0	\$234.0	\$857.3	\$1,255.5	\$357.6	\$204.0	\$1,817.1
2035	5.0%	\$923.7	\$1,965.7	\$2,889.4	\$467.9	\$99.2	\$104.5	\$252.1	\$923.7	\$1,358.2	\$386.9	\$220.6	\$1,965.7
<b>Total</b>		<b>\$7,161.9</b>	<b>\$15,022.9</b>	<b>\$22,184.8</b>	<b>\$3,627.8</b>	<b>\$769.2</b>	<b>\$810.0</b>	<b>\$1,955.0</b>	<b>\$7,161.9</b>	<b>\$10,380.1</b>	<b>\$2,956.6</b>	<b>\$1,686.3</b>	<b>\$15,022.9</b>

LTD = Long Term Disability, STD = Short Term Disability

## Ontario

In 2000, in Ontario, an estimated 24.1% of the population ages 12 and older smoked (27.0% of males and 21.4% of females). This has decreased to an estimated 15.2% in 2018 (18.8% for males and 11.8% for females) or 1.91 million smokers (1,156,000 males and 752,000 females).

The total economic burden attributable to tobacco smoking in Ontario in 2018 is estimated at \$5.36 billion (ranging from \$4.45 to \$6.43 billion). Of this \$5.36 billion, \$1.79 billion (ranging from \$1.46 to \$2.18 billion) is for direct costs and \$3.57 billion (ranging from \$2.99 to \$4.25 billion) is for indirect costs.

Given current trends and estimated population growth, there would be an estimated 1,747,000 smokers in Ontario in 2035. This would decline to an estimated 758,000 smokers under the 5% scenario, or 990,000 fewer smokers. The reduction in the number of smokers under the 5% scenario consists of 632,000 (64% of the total) fewer light smokers, 244,000 (25%) fewer moderate smokers and 114,000 (12%) fewer heavy smokers.

This reduction in the number of smokers in the province, in turn, would lead to a reduction in the economic burden attributable to tobacco smoking of \$1.88 billion (ranging from \$1.56 to \$2.26 billion) in 2035, with \$634 million (ranging from \$526 to \$760 million) in direct costs and \$1,248 million (ranging from \$1,037 to \$1,497 million) in indirect costs. Cumulatively, costs avoided between 2020 and 2035 are estimated at \$16.4 billion, ranging from \$13.7 to \$19.7 billion (using constant 2018 dollars).

Between 2008 and 2017, Ontario saw an average annual increase of 3.82% in health care expenditures. If we assume a similar annual rate of increase through 2035, the 5% scenario in Ontario would lead to a reduction in the economic burden attributable to tobacco smoking of \$3.56 billion (ranging from \$2.96 to \$4.27 billion) in 2035 and cumulative costs avoided between 2020 and 2035 of \$26.1 billion (ranging from \$21.7 to \$31.4 billion) (see following table).

### Annual Direct and Indirect Costs Avoided, Ontario

Adjusted for Inflation, by Cost Category

2019 - 2035, Ages 12+

(\$,000,000)

Year	Target Prevalence	Annual Cost Avoided			Cost Avoided by Direct Cost Category					Cost Avoided by Indirect Cost Category			
		Direct	Indirect	Total	Hospital	Physician	Drug	Other	Total	Mortality	LTD	STD	Total
2019	15.2%	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
2020	13.8%	\$17.4	\$34.5	\$51.9	\$8.8	\$1.9	\$2.0	\$4.7	\$17.4	\$23.9	\$6.8	\$3.9	\$34.5
2021	12.6%	\$52.5	\$104.4	\$156.9	\$26.6	\$5.6	\$5.9	\$14.3	\$52.5	\$72.1	\$20.5	\$11.7	\$104.4
2022	11.5%	\$105.5	\$209.9	\$315.4	\$53.4	\$11.3	\$11.9	\$28.8	\$105.5	\$145.1	\$41.3	\$23.6	\$209.9
2023	10.5%	\$170.6	\$336.0	\$506.5	\$86.4	\$18.3	\$19.3	\$46.6	\$170.6	\$232.2	\$66.1	\$37.7	\$336.0
2024	9.6%	\$247.5	\$482.2	\$729.6	\$125.3	\$26.6	\$28.0	\$67.5	\$247.5	\$333.2	\$94.9	\$54.1	\$482.2
2025	8.9%	\$325.8	\$631.4	\$957.2	\$165.0	\$35.0	\$36.9	\$88.9	\$325.8	\$436.3	\$124.3	\$70.9	\$631.4
2026	8.2%	\$407.9	\$788.0	\$1,195.9	\$206.6	\$43.8	\$46.1	\$111.3	\$407.9	\$544.5	\$155.1	\$88.5	\$788.0
2027	7.6%	\$490.1	\$946.6	\$1,436.8	\$248.3	\$52.6	\$55.4	\$133.8	\$490.1	\$654.1	\$186.3	\$106.3	\$946.6
2028	7.1%	\$572.9	\$1,108.2	\$1,681.1	\$290.2	\$61.5	\$64.8	\$156.4	\$572.9	\$765.7	\$218.1	\$124.4	\$1,108.2
2029	6.7%	\$656.8	\$1,273.4	\$1,930.2	\$332.7	\$70.5	\$74.3	\$179.3	\$656.8	\$879.9	\$250.6	\$142.9	\$1,273.4
2030	6.3%	\$742.4	\$1,443.0	\$2,185.3	\$376.0	\$79.7	\$84.0	\$202.6	\$742.4	\$997.0	\$284.0	\$162.0	\$1,443.0
2031	5.9%	\$829.6	\$1,617.3	\$2,446.9	\$420.2	\$89.1	\$93.8	\$226.5	\$829.6	\$1,117.5	\$318.3	\$181.5	\$1,617.3
2032	5.6%	\$919.8	\$1,798.2	\$2,718.0	\$465.9	\$98.8	\$104.0	\$251.1	\$919.8	\$1,242.5	\$353.9	\$201.8	\$1,798.2
2033	5.4%	\$1,011.9	\$1,983.6	\$2,995.6	\$512.6	\$108.7	\$114.5	\$276.2	\$1,011.9	\$1,370.6	\$390.4	\$222.7	\$1,983.6
2034	5.2%	\$1,105.1	\$2,171.6	\$3,276.7	\$559.8	\$118.7	\$125.0	\$301.7	\$1,105.1	\$1,500.4	\$427.4	\$243.8	\$2,171.6
2035	5.0%	\$1,198.4	\$2,360.5	\$3,558.8	\$607.0	\$128.7	\$135.5	\$327.1	\$1,198.4	\$1,631.0	\$464.5	\$265.0	\$2,360.5
<b>Total</b>		<b>\$8,854.0</b>	<b>\$17,288.9</b>	<b>\$26,142.9</b>	<b>\$4,484.9</b>	<b>\$950.9</b>	<b>\$1,001.4</b>	<b>\$2,416.9</b>	<b>\$8,854.0</b>	<b>\$11,945.7</b>	<b>\$3,402.5</b>	<b>\$1,940.6</b>	<b>\$17,288.9</b>

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