Non-Smokers' Rights Association
Smoking and Health Action Foundation

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Introduction

The Non-Smokers' Rights Association (NSRA) was established 32 years ago to seek remedies for the risks to health caused by second-hand smoke (SHS). Given this historic involvement in the evolution of legislation to protect the health of non-smokers, especially children, our association is pleased to fully support Bill 69—An Act to protect children from second-hand tobacco smoke in motor vehicles by amending the Smoke-Free Ontario Act. Bill 69 has a duel purpose: not only will it protect Ontario's most vulnerable citizens from the known health hazards of exposure to second-hand smoke (SHS) in motor vehicles, but it will also serve as a cost-effective and on-going public education tool.

The Need for Smoke-free Vehicles

With the advent of smoke-free workplaces and public places across Canada, the home and car are the predominant locations for Canadians' exposure to SHS. According to 2006 statistics from the Canadian Tobacco Use Monitoring Survey, over 350,000 children under the age of 12 were regularly exposed to SHS in the home.[1] If adults are smoking in the home with children present, it is probably fair to assume that many of them also smoke in their vehicles with children present. Data from the 2004 Youth Smoking Survey reveal that more than one quarter (26.3%) of young people in grades 5-9 were exposed to SHS in a car at least once in the previous week and 4.5% were exposed on a daily basis.[2] Today's children spend much more time in cars than children from previous generations. According to data from the 2005 General Social Survey (GSS) on time use, 74% of Canadians go everywhere by car, including ferrying their children back and forth from home to daycare, school, extra-curricular activities, etc.[3] A survey conducted by Environics for the Canadian Cancer Society in 2006 found that only 37% of households with at least one smoker and one vehicle made their vehicles smoke-free.[4] The same survey also noted that smokers do not tend to perceive exposure to SHS as a serious health risk the way non-smokers do.

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[1] Canadian Tobacco Use Monitoring Survey (CTUMS) 2006. *Summary of annual results for 2006.* http://www.hc-sc.gc.ca/hl-vs/tobac-tabac/research-recherche/stat/ctums-esutc_2006-eng.php

[2] ST Leatherdale, P Smith, R Ahmed. Youth exposure to smoking in the home and in cars: How often does it happen and what do youth think about it? *Tobacco Control* 2008; 17:86-92.

[3] M Turcotte. *Life in Metropolitan Areas: Dependence on Cars in Urban Neighbourhoods.* Canadian Social Trends. Statistics Canada. Catalogue No. 11-008. http://www.statcan.ca/english/freepub/11-008-XIE/2008001/article/10503-en.pdf.

[4] Canadian Cancer Society. *Majority of Canadians are making their homes and cars smoke-free*. Press release 12 January 2006.

SHS Exposure in Vehicles

It is well documented that there is no known safe level of exposure to SHS. There is also an emerging body of evidence measuring SHS levels in vehicles that supports the passage of smoke-free car laws. Many smokers erroneously believe that by winding down their window a few inches and positioning their cigarette nearby, they are preventing smoke from reaching the backseat. One study found that smoking a single cigarette for only 5 minutes in a vehicle can result in concentrations of fine particulate matter ($PM_{2.5}$) reaching levels similar to those measured in smoky bars.[5] $PM_{2.5}$ pollution poses a health hazard because the fine particles can be inhaled deep into the lungs, increasing susceptibility to respiratory infections, aggravating existing respiratory diseases such as asthma and chronic bronchitis, and causing more use of medication.

Data from the handful of published, peer-reviewed studies indicate that under a variety of driving conditions, including maximum ventilation (an unlikely scenario in real life), measured levels of $PM_{2.5}$ in test vehicles exceeded the U.S. Environmental Protection Agency's (EPA) 24-hour standard for fine particle exposure.[6,7,8] Sendzik et al. have also noted that the U.S. EPA standard for air quality is based on typical outdoor air pollution—SHS is likely more toxic and the actual hazard of SHS in cars is likely underestimated.[9] Bill 69 sends a clear message that smoking in a vehicle with a child present is unacceptable regardless of whether windows are open.

SHS and Children's Health

Children exposed to SHS are at an increased risk for asthma, ear infections, bronchitis, pneumonia, and even sudden infant death syndrome (SIDS). Children are disproportionately affected by SHS because:

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[5] VW Rees, GN Connolly. Measuring air quality to protect children from secondhand smoke in cars. *American Journal of Preventive Medicine* 2006; 31:363-68.

[6] T Sendzik, GT Fong, MJ Travers & A Hyland. *An Experimental Investigation of Tobacco Smoke Pollution in Cars.* Toronto, ON: Ontario Tobacco Research Unit, Special Report, March 2008. http://www.otru.org/pdf/special/special_mar_2008.pdf?zoom_highlight=smoking+in+cars#search=%22smoking%20in%20cars%22

[7] VW Rees, GN Connolly. Measuring air quality to protect children from secondhand smoke in cars. *American Journal of Preventive Medicine* 2006; 31:363-68.

[8] W Ott, N Klepeis, P Switzer. Air change rates of motor vehicles and in-vehicle pollutant concentrations from secondhand smoke. *Journal of Exposure Science and Environmental Epidemiology*, 18 July 2007; doi: 10.1038/sj.jes.7500601.

[9] T Sendzik, GT Fong, MJ Travers & A Hyland. *An Experimental Investigation of Tobacco Smoke Pollution in Cars.* Toronto, ON: Ontario Tobacco Research Unit, Special Report, March 2008. http://www.otru.org/pdf/special/special_mar_2008.pdf?zoom_highlight=smoking+in+cars#search=%22smoking%20in%20cars%22

- Their bodies are still developing,
- They have immature immune systems,
- They breathe at a faster rate than adults, and
- They don't have control over their environments like adults do and are frequently unable to prevent their own exposure to SHS.

As such, young people are at greater risk than adults for future SHS-related morbidity and mortality.[10] Children exposed to SHS at home have more annual days of restricted activity, bed confinement and school absence than children not exposed.[11] Moreover, children who are exposed to cigarette smoke at home and in other environments are more likely to be susceptible to initiating smoking than those not exposed.[12]

Public Opinion

In 2002 the Ontario Tobacco Research Unit (OTRU) began tracking public support in Ontario for banning smoking in vehicles with children present. Support has increased significantly from 68% in 2002 to 78% in 2005. It is also significant to note that fully two-thirds (66%) of smokers who were polled were also in support.[13] Similarly, a recent Ipsos Reid public opinion poll commissioned by the Ontario Tobacco-Free Network showed 86% of non-smokers and 66% of smokers support a smoke-free vehicle law with children under the age of 16 present.[14] Youth themselves also support smoke-free vehicle laws—over 90% of Canadian youth do not think that smoking should be allowed around children in cars. Over 70% of young people who smoke also support the idea.[15]

Enforceability

Smoke-free car laws are a recent phenomenon: jurisdictions considered "early adopters" passed legislation in 2006 and have barely two years' worth of experience to share. None have published data, although the State Department of Health in Arkansas reports that it is currently surveying and plans to publish its results by the end of the year. Early results indicate that support for the Arkansas law is high, at approximately

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[10] ST Leatherdale, P Smith, R Ahmed. Youth exposure to smoking in the home and in cars: How often does it happen and what do youth think about it? *Tobacco Control* 2008; 17:86-92.
[11] DM Mannino et al. Environmental tobacco smoke exposure and health effects in children: Results from the 1991 National Health Interview Survey. *Tobacco Control* 1996; 5:13-18.
[12] DW Bettcher et al. Exposure to secondhand smoke among students aged 13 -15 years—Worldwide, 2000-2007. *MMWR* 2007; 56:497-500.
[13] Ontario Tobacco Research Unit. *The Smoke-Free Ontario Act: Extend protection to children in vehicles.* OTRU Update, August 2006. http://www.otru.org/pdf/updates/update_aug2006.pdf
[14] Ontario Tobacco-Free Network. *Smoking in Vehicles with Children.* http://www.theotn.org/index.php?id=39
[15] ST Leatherdale, P Smith, R Ahmed. Youth exposure to smoking in the home and in cars: How often does it happen and what do youth think about it? *Tobacco Control* 2008; 17:86-92.

70%. It appears as though the message is getting through, as there have been very few citations issued, despite the fact that the Arkansas law recognizes smoking in a car with a child present as a primary offence.[16] Based on society's increasing appreciation of the dangers of SHS and resultant intolerance of exposure in a variety of settings, the anecdotal report from Arkansas suggests that passing a smoke-free car law can be effective in bringing about social change.

Critics may state that passing a law is unnecessary and heavy-handed, and that all is required is a public education campaign. However, the fact is that people are more likely to make their cars smoke-free when it becomes the law. Human behaviour is driven by incentives, and fear of breaking the law is a fairly strong incentive, even when the financial penalty is minimal. The social incentive to comply with something increases when it becomes illegal—the hard glare of fellow motorists and the offender's guilty feelings are arguably more powerful than any monetary fine.

Conclusion

There is no known safe level of exposure to SHS. Smoking even one cigarette in a vehicle can result in concentrations of fine particulate matter reaching levels previously measured in smoky bars. Despite decades of public health campaigns and the introduction of smoke-free public places legislation, it is still common for Canadian children to be exposed to SHS. All children deserve a healthy start in life. Children's protection from exposure to SHS not only reduces associated health risks but also decreases their susceptibility to smoking initiation.

Other jurisdictions have successfully introduced smoke-free car legislation, and Ontario can too. Indeed, public policy concerning SHS is changing quickly—Ontario's assertions of having one of the strongest pieces of tobacco control legislation in North America are becoming inaccurate as other jurisdictions move forward with legislation such as smoke-free car laws. Public opinion is on our side, and both scientific evidence and surveys of children's exposure to SHS demonstrate the need for a smoke-free vehicle law. The Non-Smokers' Rights Association supports Bill 69 and commends the government of Ontario for being progressive and taking steps to better protect the children of this province from exposure to SHS. The NSRA is a national, non-profit health organization with members throughout the province of Ontario.

[16] R Pippens. Arkansas Department of Health, Tobacco Prevention and Education. Personal communication. 10 June 2008.