

Evidence to support outdoor smoking restrictions

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Evidence to Support Outdoor Smoking Restrictions

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Overview

- Commonly regulated environments
- Rationale to support outdoor tobacco-free regulations
- Ottawa patio tobacco smoke / air quality study - Aug 2010
- U of Waterloo Wind Tunnel tobacco smoke / air quality study - July 2011
- Woodstock Ontario outdoor smoke-free by-law evaluation
- Ontario Enforcement study (Propel) – August 2012
- Practical applications in advocacy or policy development

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Outdoor spaces commonly regulated to restrict or ban the use of tobacco:

- Doorways
- Municipal properties, Hospital grounds, Educational campuses, Private properties
- Parks
- Recreational environments (fields, pitches, courts, pools, trails)
- Beaches
- Transit environments
- Patios
- Outdoor events (festivals, parades)

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Rationale for restricting or banning outdoor tobacco use

Traditional Tobacco Control

- Protection from exposure to OTS (outdoor tobacco smoke)
- Prevention – de-normalization of tobacco use, role modeling
- Cessation – support those trying to quit, prevent relapse

Other

- Fire protection
- Litter
- Water quality/ wild life protection

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US Surgeon General has concluded that there is no risk free level of exposure to tobacco smoke

U.S. Department of Health and Human Services. The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General - 2006

“Breathing in second-hand smoke causes at least 800 deaths in Canadian non-smokers from lung cancer and heart disease every year”

- Health Canada, 2012

Evidence in the Literature

Real-Time Measurement of Outdoor Tobacco Smoke Particles

Neil E. Klepeis, Wayne R. Ott, and Paul Switzer

Stanford University, Stanford, CA

Journal Air & Waste Manage. 57:522–534

DOI:10.3155/1047-3289.57.5.522

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Evidence in the Literature

Real-Time Measurement of Outdoor Tobacco Smoke Particles - from study:

“..Levels are highly dependent on source proximity.... The concentrations at different distances are influenced by wind conditions. We found that it was possible for there to be detectable OTS levels at downwind positions of >4 m from a single active cigarette.”

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“Brief exposure to real-world levels of [TSP] leads to sustained vascular injury ...”

- Tobacco Smoke Pollution Study, University of California San Francisco, 2008

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Tobacco Smoke Pollution in Outdoor Patios Ottawa, August 2010



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Tobacco Smoke Pollution in Outdoor Patios Ottawa, August 2010

STUDY OBJECTIVE:

To quantify if tobacco smoke impacts air quality on outdoor patios in Ottawa.

METHODS:

Air quality monitoring was conducted using established research methods described by Travers et al. (2008). A convenience sample of patios was visited.



**TSI SidePak AM 510 –
PM_{2.5} air quality monitor**

Source: tobaccofreeair.org

Tobacco Smoke Pollution in Outdoor Patios Ottawa, August 2010

SAMPLE:

- 10 patios were sampled where smoking was permitted; 2 patios were sampled that were smoke-free.
- A range of venue types was sampled including family restaurant, pub/bar, restaurants and coffee shops.
- Samples were collected on Fri Aug 20 and Mon Aug 23, 2010.

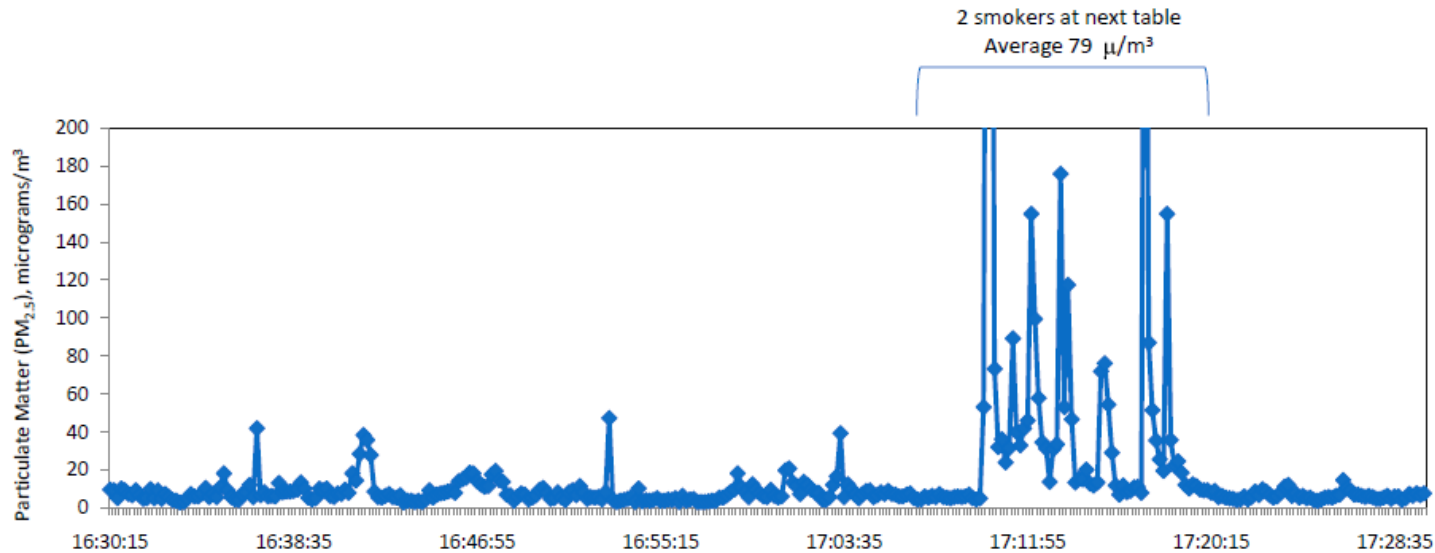
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Tobacco Smoke Pollution in Outdoor Patios Ottawa, August 2010

PATIO 1 - Uncovered courtyard
PM_{2.5} readings on an Ottawa patio, August 20, 2010



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Tobacco Smoke Pollution in Outdoor Patios Ottawa, August 2010

	Average concentration PM _{2.5} (µm/m ³)	Peak concentration PM _{2.5} (µm/m ³)
Smoke-free patio	<10	<10
Adjacent to 2 smokers (8 min)	79	>700
Beside a busy street during rush hour	<10	20

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UW Wind Tunnel Experiments

Controlled experiments to understand how TSP impacts air quality under different wind speeds, and at different distances from a burning cigarette.



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UW Wind Tunnel Experiments

Methods:

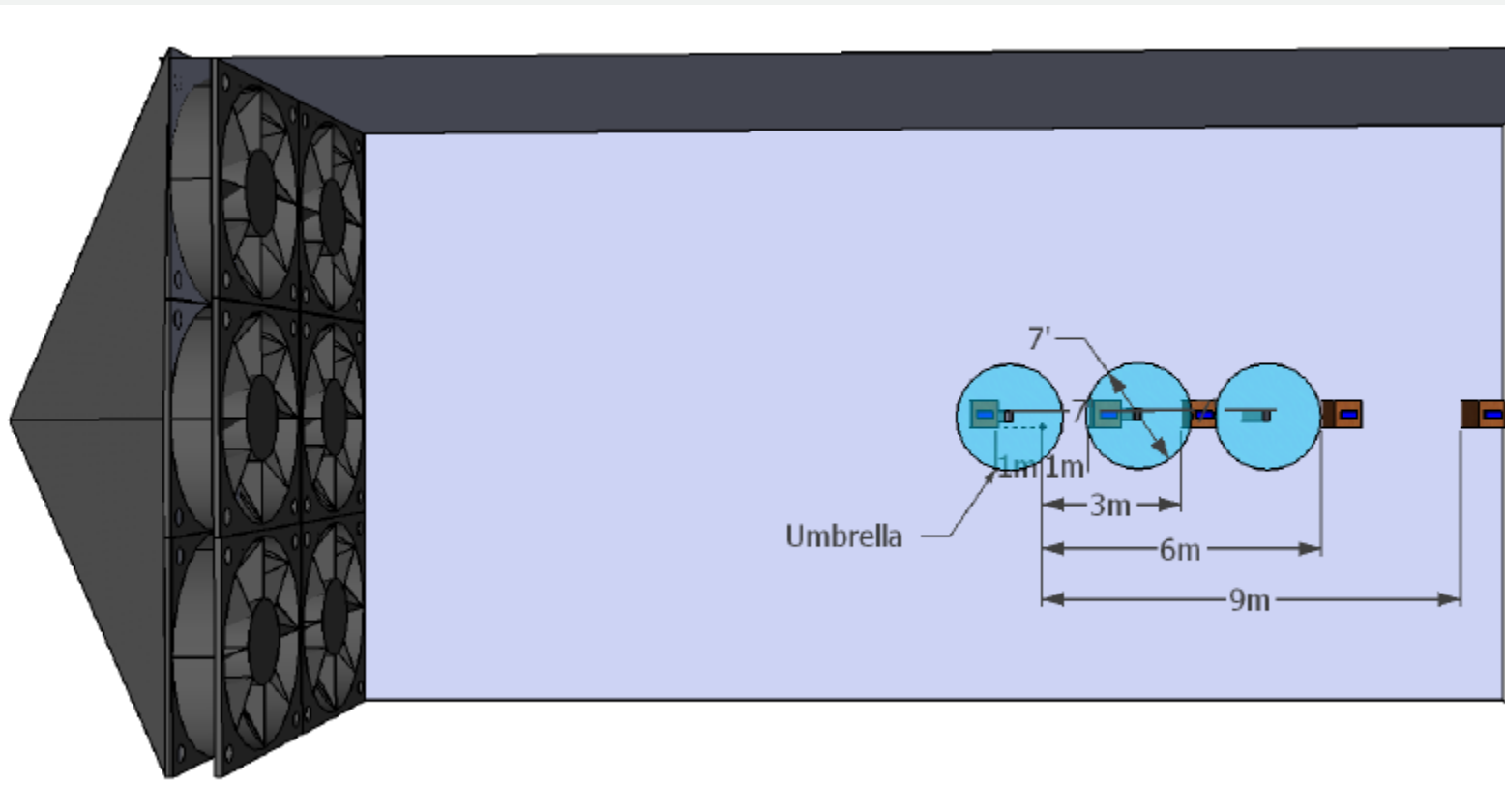
- 2 cigarettes pumped manually
- 55mL puffs, drawn over 2 seconds every 30 seconds
- no generated wind, wind 1.5m/sec & 2.5 m/sec
- Measured concentrations of PM_{2.5} up and downwind

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UW Wind Tunnel – Patio with Umbrellas





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UW Wind Tunnel Experiments

FINDINGS:

1. Background concentrations of $PM_{2.5}$ were $6\mu/m^3$.
2. When cigarettes were pumped during the no-controlled-wind condition, $PM_{2.5}$ concentrations were elevated at all air quality monitoring locations – geometric mean concentrations ranged from $11\mu/m^3$ (12m downwind) to $102\mu/m^3$ (1m downwind).
3. Ranges of concentrations during the 1.5m/second wind scenario ranged from $24\mu/m^3$ (3m downwind) to $14\mu/m^3$ (12m downwind).

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Woodstock, Ontario – By-law Evaluation



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Woodstock, Ontario – By-law Evaluation

- Ontario's first comprehensive outdoor smoke-free by-law
- Regulated smoking in:
 - Parks
 - Recreational Fields
 - Transit environments
 - Patios
 - Doorways
 - Special Events

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Woodstock, Ontario – By-law Evaluation

FINDINGS:

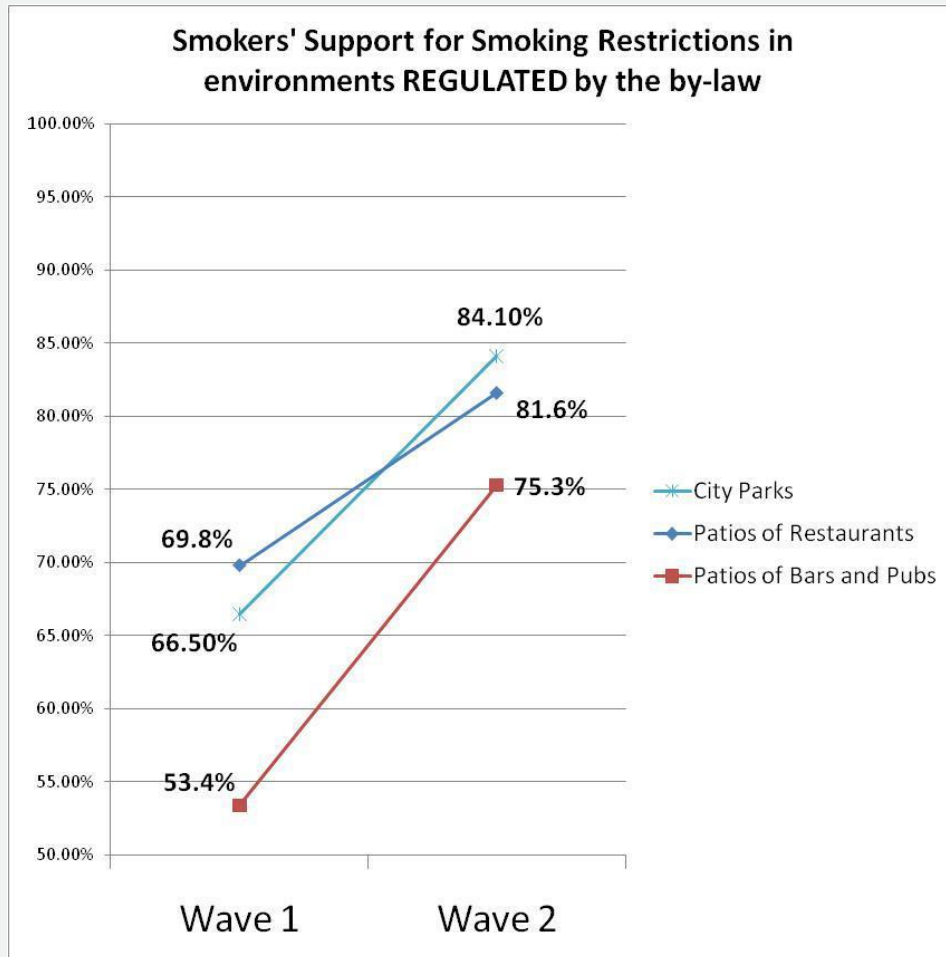
1. Support for the by-law was high, even among smokers.
2. Support for restrictions went up for environments regulated by the by-law (AND environments NOT covered in the by-law).
3. Support for the by-law was associated with increased quit intentions, supporting quit attempts and reduced smoking, and supporting sustained abstinence.

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Woodstock, Ontario – By-law Evaluation



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Woodstock, Ontario – By-law Evaluation

SMOKING BEHAVIOUR

- 33% of smokers in the Wave 2 survey reported that the by-law has helped them cut down the number of cigarettes they smoke

- 19% of smokers reported the by-law has made them more likely to quit

- 30 smokers in Wave 1 were successfully quit at the time of the Wave 2 survey. 47% (n=14) of those respondents indicated the by-law had helped them to stay quit.

- Smokers reported smoking less often in environments that were regulated by the by-law including on recreational fields, and near bus shelters and approximately half of smokers said they would ALWAYS follow the by-law.

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Woodstock, Ontario – By-law Evaluation

FINDINGS:

People who smoke: Smoking should be restricted in City Parks:

	Pre-By-law implementation	Post-By-law implementation
Random sample of smokers :	68% →	80%
Sample of smokers from Woodstock surveyed who - before the law - were smoking in public areas that would become banned by the law	52% →	90%

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Enforcement Study, Ontario



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Enforcement Study, Ontario

PURPOSE:

- Address barriers of public health practitioners working to advance outdoor smoke-free policies.
- Measure reported financial impacts associated with implementation and enforcement of smoke-free outdoor municipal by-laws including materials and staffing costs, and number of warnings or tickets issued by the municipality.
- Provide practice-based evidence to inform local level decision makers without outdoor policies and guide tobacco control advocates and policy makers in Ontario.

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Enforcement Study, Ontario

METHODS:

- Ontario communities with outdoor smoking restrictions beyond the SFOA were identified (n=59).
- Communities with a bylaw in force for at least 2 years were included in the sample (n=44) to ensure a full fiscal calendar year could be considered.
- Appropriate municipal staff and managers were interviewed by telephone between June - September 2012.
- 37 of 44 municipalities were contacted and provided data. In most municipalities, multiple people needed to be interviewed.

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RESULTS - SIGNAGE:

- Almost all municipalities (n=35; 95%) posted signage to support awareness of their outdoor smoke-free bylaw.
- Average cost to produce signage was \$50/sign (n=6, range: \$40-\$94/sign).
- Some municipalities reported signs were made in-house at minimal cost (n=6; 16%). For the majority of municipalities, sign production costs were not tracked (n=25; 68%).

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RESULTS - PRESENTATIONS & PUBLIC MEETINGS:

- Most (n=23; 62%) municipalities reported staff made presentations to the community
- Majority (n=30; 81%) of municipalities held at least one public meeting (either council meetings to introduce and pass the bylaw or public information sessions).
- Nine (24%) municipalities held public information sessions.
- Presentations and public meetings did not require additional financial resources but staff time was needed.

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RESULTS - PROMOTIONAL MATERIAL

- 15 (40%) municipalities reported using promotional materials (e.g., pamphlets, brochures and/or posters) to communicate new bylaw.
- Materials were often produced and distributed in partnership with the local health unit (n=10; 27%).
- Quantity and cost of producing promotional items were often unknown—either produced in house at minimal cost or not recorded.
- Other promotional efforts included: local newspaper ads, municipal/health unit website notices, social media, colouring contests, bus ads; and inclusion in contracts with groups using recreation fields.

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RESULTS - ENFORCEMENT:

- The majority (n=28; 76%) of municipalities use bylaw enforcement officers (municipal staff) to enforce the bylaw;
- 16 (43%) municipalities use bylaw enforcement officers exclusively
- 5 (14%) municipalities exclusively use tobacco enforcement officers (health unit staff).
- Other municipalities use a combination of enforcement staff, including:
 - municipal bylaw officers,
 - provincial tobacco enforcement officers,
 - local police, and
 - municipal parks and recreation staff.

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RESULTS - ENFORCEMENT APPROACH:

- All municipalities indicated they respond to complaints.
- 13 (35%) municipalities are strictly complaint driven because of staffing capacity.
- 22 (59%) municipalities use a combination of responding to complaints and conducting routine inspections.
- Routine inspections were often done in “known” problem areas (e.g. arenas, recreational fields).

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RESULTS-

GRACE PERIOD:

- The majority of municipalities used a “grace period” system - when warnings were issued instead of tickets.
- 12 (32%) municipalities had a formal period of time (from 1 month to 1 year)

WARNINGS:

- 21 (57%) municipalities have issued warnings; 4 (11%) municipalities do not track warnings issued.
- Of the municipalities that have issued warnings, 71% (n=26) report issuing 10 warnings or less.
- 6 (16%) municipalities report issuing over 50 warnings (often in problematic areas).

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RESULTS - TICKETS and STAFFING RESOURCES:

- 6 (16%) municipalities reported issuing tickets with the majority (4/6) only issuing 1-2 tickets since the bylaw came into effect.
- No municipality reported that they experienced contested tickets requiring court time.
- No area municipality reported that they had hired additional enforcement staff as a result of their community's smoke-free by-law.

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CONCLUSIONS:

- Across Ontario, smoke-free outdoor bylaws have been implemented largely without municipalities requiring additional financial or human resources.
- The implementation, promotion, and enforcement of these bylaws have required municipal staff time and in most cases have promotional costs, but these have come from existing budgets and using existing staff.
- Although most communities are not actively ‘ticketing’ offenders, many are; most communities are actively enforcing ‘some of the time’
- Important to note: there were no reported incidents of tickets being challenged in courts or other systems, therefore resulting in minimal additional staff time.

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Practical applications: Advocacy/ Policy Development

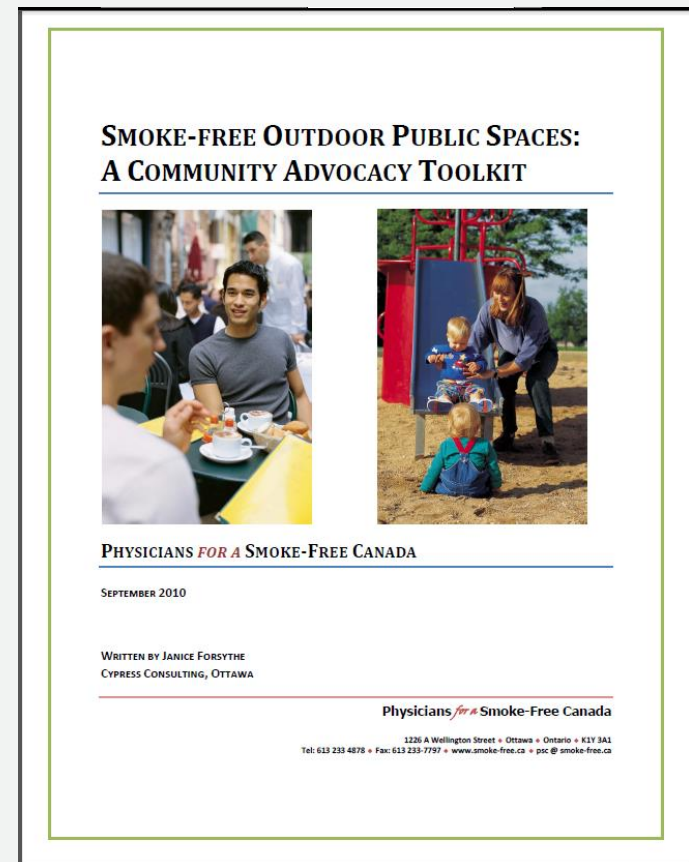
To develop strategies in advocating for, or developing a smoke-free outdoor spaces policy:

“Smoke-free Outdoor Public Spaces: A Community Advocacy Toolkit”

(Physicians for a Smoke-Free Canada)

Available at:

[www.smoke-free.ca/pdf_1/Smoke-free outdoor spaces advocacy -sept2010.pdf](http://www.smoke-free.ca/pdf_1/Smoke-free%20outdoor%20spaces%20advocacy%20-sept2010.pdf)



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The toolkit will help to:

- build capacity for action at the community level to advocate for smoke-free outdoor spaces
- facilitate coalition-building and collaborative action by tobacco control advocates, partners, public health experts, health promotion networks, municipal/ regional politicians, community members, etc.
- provide information and resources to help make smoke-free outdoor bylaws a reality

(Janice Forsythe; Physicians for a Smoke-Free Canada, 2010)

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Overall Conclusions

1. There is strong evidence that TSP causes a wide range of negative health consequences (resulting in 800 deaths/year in Canada); and there is **NO SAFE LIMIT**.
2. Strong evidence that there can be high levels of TSP in outdoor environments, even under windy conditions, and as far as 9m from the burning cigarette.
3. Other Ontario communities have implemented **effective** comprehensive outdoor smoke-free bylaws that have been supported by their community (including smokers!).

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Overall Conclusions

4. The Ontario experience suggests that the implementation and enforcement of outdoor smoke-free and tobacco-free bylaws **does not create significant burden to municipalities**; Some communities report minimal 'active enforcement' – and strategic methods for this are developing (Hamilton, Ontario)
5. There are resources available to assist communities in the process of advocating for smoke-free outdoor spaces or policy development (Physicians for a Smoke-free Canada), among others.

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