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# The availability of smoking-permitted accommodations from Airbnb in 12 Canadian cities

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## ABSTRACT

**Purpose** Airbnb is a web-based peer-to-peer (P2P) service that enables potential hosts and guests to broker accommodations in private homes as an alternative to traditional hotels. The hospitality sector has increasingly gone smoke-free over the last decade. This study identified the availability and cost of smoking-permitted accommodations identified on Airbnb.

**Methods** The study team searched for Airbnb accommodations in 12 Canadian cities across each of Canada's 10 provinces. Searches included availability for a single person for a private room, or double occupancy for an entire home/apartment; searches were for 1-night and 1-week stays.

**Results** Cities across Canada, including Regina, Fredericton and Charlottetown, had no smoking-permitted accommodations available for the searches conducted. The proportion of private rooms available for one night that permitted smoking ranged from 2% in Calgary, 4% in Winnipeg and St. John's, 10% in Halifax and Victoria, 18% in Toronto, 45% in Vancouver and 69% in Montréal. The average cost for a private room for one night in Vancouver was \$128, while the cost for a private room that permits smoking was \$62; however, in other markets prices were more similar.

**Discussion** Across Canada, there is a wide range of smoking-permitted accommodations available through Airbnb. In some markets, smoking-permitted accommodation may be significantly less expensive than smoke-free options. As hotel chains increasingly go smoke-free, it is possible that the marketplace will respond with offerings to fulfil consumer demand. As policy makers consider how to regulate P2P services like Airbnb, public health considerations should be included.

## BACKGROUND

Peer-to-peer (P2P) business models facilitate access to goods and services without ownership. Airbnb is a business that provides a web-based P2P service for people to list, find and rent temporary accommodations often within privately owned homes.<sup>1</sup> Globally, Airbnb has over 2 million listings in 34 000 cities across 190 countries.<sup>2</sup> Potential guests can search for accommodations in a given destination for a given time period on the Airbnb website. Users can filter search results using a variety of criteria, including venue amenities such as parking or Wi-Fi. Hosts can post specific 'house rules' associated with their listing, including the prohibition or restrictions of certain behaviours such as smoking tobacco.

Canadians have hosted more than 627 000 Airbnb guests since the service started in 2009.<sup>3</sup> By 2012, Airbnb and other forms of alternative accommodation accounted for 8% of the international

traveller overnight market to Canada.<sup>4</sup> Related to Airbnb are concerns about discrimination<sup>5,6</sup> and regulatory issues including municipal zoning,<sup>7</sup> taxes, insurance,<sup>8</sup> and liability.<sup>9</sup> In addition to these public policy questions are public health matters including exposure to tobacco smoke.

Smoke-free laws do not usually apply to private and temporary living spaces including hotel rooms, although several Canadian municipalities,<sup>10</sup> and approximately 189 jurisdictions in the USA, require 100% smoke-free hotel rooms.<sup>11</sup> Smoke-free hotels are important to protect both guests and hotel staff from exposure to secondhand and thirdhand smoke. Numerous hotel chains, including the Westin, Marriott and Sheraton groups, have voluntarily gone 100% smoke-free across their entire portfolio of properties.<sup>11</sup> Airbnb accommodations are not licensed hotels and are not subject to the same regulation as traditional hospitality businesses including smoke-free restrictions.

The current study quantifies the availability of Airbnb accommodations that permit smoking in a purposeful sample of Canadian cities in each of the 10 provinces. In British Columbia, the capital city, Victoria and the most populous city, Vancouver were included; in Ontario, the provincial and national capitals were included (Toronto and Ottawa); in the other eight provinces, cities included were either the capital and/or the most populous city. The study also identifies the average cost for accommodation in both smoking-permitted and smoke-free accommodations. In some Canadian cities, there are literally thousands of available rentals. Airbnb uses an algorithm to present approximately 300 possible venues based on a variety of factors including listing quality, reported trip experiences and guest ease of booking.<sup>12</sup> This study tried to compare accommodations similar to a hotel and assumed that guests were wishing to stay somewhere priced at or below the cost of traditional hospitality settings. This study further tried to assess the extent to which smoking is a reported issue with hosts and guests by assessing the content of online reviews that discussed smoking.

## METHODS

The research team conducted accommodation searches on Airbnb.ca over 2 days (April 14–15, 2016) in the following 12 Canadian cities: Victoria, Vancouver, Calgary, Regina, Winnipeg, Toronto, Ottawa, Montréal, Fredericton, Charlottetown, Halifax and St. John's. For the cities of Victoria, Vancouver, Calgary, Toronto and Montréal, searches were limited to Airbnb's 'downtown' neighbourhood classification. Researchers did not log into a personal account on Airbnb to avoid possible search preferences based on previous user behaviour.



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First, the team identified the number of smoking-permitted and smoking not-permitted accommodations in each city; hosts need to indicate if their property permits smoking, otherwise it is defaulted as smoke-free. We identified the average (mean) cost for accommodation. Searches were filtered by price; accommodations were only included if the rental price was equal to or less than the average cost of accommodations in that city, for the same time, as reported on a popular internet travel website (Expedia.ca). The team conducted multiple search scenarios, including: (1) a single guest in a private room for a single night and a weeklong stay, (2) a pair of guests staying in an entire home or apartment for a single night and a weeklong stay. The fictional bookings were approximately 6 weeks in the future – Wednesday 1st June and 4–11th June. Average (mean) prices for one night's stay are reported as well as 95% CIs for cities with samples >4.

Second, the team identified and assessed reviews/comments listed for each accommodation that permitted smoking. The study team reviewed comments in both English and French, counted the number of comments provided by a guest or host, and classified comments based on content.

## RESULTS

The availability of smoking-permitted accommodations differed greatly from city to city. Some cities had no available accommodations that permitted smoking for any search scenario (Regina, Fredericton and Charlottetown). Several cities (Victoria, Calgary, Winnipeg, Ottawa and St. John's) had 10% or less of available accommodations permitting smoking. In contrast, searches in the city of Montréal for a private room identified hundreds of possible venues for a one-night stay and a full list of 300 possible venues for a 1-week stay. The cost for smoking-permitted accommodations in certain cities, such as Winnipeg and Montréal, was very similar to the cost for smoke-free accommodations. In the west coast cities of Vancouver and Victoria, smoking-permitted accommodations were cheaper than smoke-free accommodations across all searches. In Vancouver, the average cost of a smoke-free, one-night, single-guest accommodation was \$128, compared with \$62 for a smoking-permitted accommodation with the same parameters. In Calgary, across all searches, smoking-permitted accommodations were more expensive than smoke-free accommodations. The proportion of smoking-permitted listings relative to the number of non-smoking accommodations displayed in each search and average daily costs for each search, are in [table 1](#) below.

The team identified and analysed the comments posted in the 'Reviews' section of each listing that permitted smoking; in total, 110 comments were identified that mentioned smoking tobacco. The vast majority (96% n=106) was comments posted by hosts providing specific details about when and where smoking was permitted; most of these comments specified that smoking was only permitted in outside areas of the property (75% n=80), while the remaining comments described where inside smoking was permitted. There were only a few guest comments related to tobacco smoke (n=4); most were negative with respect to tobacco smoke smell, cigarette butt litter or exposure to tobacco smoke in common spaces of the home (75% n=3).

## DISCUSSION

In most cities in this study, fewer than 10% of available venues identified using Airbnb-permitted smoking. The hotel chain Marriott reported that in 2006, when their Canadian hotels went 100% smoke-free, only 10% of their guest rooms were

smoking-permitted.<sup>13</sup> The results of this study demonstrate that the availability of smoking-permitted accommodation on Airbnb is similar to or less than the proportion of smoking-permitted hotel rooms prior to corporate policy changes. Montréal was notably different, with hundreds of possible venues available. The reason for this is unclear; Montréal's high availability of smoking-permitted accommodations could be a function of higher vacancy rates and/or more hosts, or simply more households that permit smoking. Smoking rates differ from city to city in Canada and these differences could influence the proportion of venues that permit smoking. Among cities included in this study, Vancouver has the lowest smoking prevalence at 13% and Regina has the highest at 24% (among the population aged 12 and over who reported being a current daily or monthly smoker).<sup>14</sup> Interestingly, Regina had no availability of smoking-permitted venues. This could mean that any accommodations that do permit smoking were already booked at the time the study team conducted searches or that there were no such accommodations on offer.

In some markets, like Vancouver, guests seeking inexpensive accommodation may stay in venues that permit smoking. This is concerning because it means guests less able to pay may be more likely to be exposed to tobacco smoke.

There was very little discourse in the online review sections related to tobacco smoking or exposure to secondhand and thirdhand smoke. Airbnb hosts and guests may be effectively communicating expectations around when and where smoking can occur. Airbnb provides suggestions for hosts to avoid problems related to tobacco smoke including posting smoke-free signage as a reminder to guests and/or ashtrays placed in designated smoking areas.<sup>12</sup>

The Airbnb platform allows guests seeking accommodations to search specifically for 'smoking permitted' venues, but does not permit guests to search for 'smoke-free' accommodations. Further, hosts who smoke in their home do not need to state this in their profile. Members of the Airbnb online community forum are calling for Airbnb to make the smoking status of properties clear.<sup>15</sup> Airbnb could require hosts to specify if and where smoking is permitted by guests and further require hosts to disclose whether smoking takes place inside and/or outside their venue. Public policy could require this change; however, there are challenges with respect to using policy to regulate platforms like Airbnb, including applying smoke-free laws. The implementation of public smoke-free policies to these environments would be challenging, particularly when considering issues of compliance and monitoring of smoking restrictions. Airbnb and other P2P accommodation platforms, like hotel chains, could choose to voluntarily go smoke-free and require hosts and guests to follow this policy. Airbnb has an extensive online feedback network that could support, in part, compliance with smoke-free policies.

The methods used in this study do not report on historic occupancy/vacancy trends, so it is not possible to say if smoking-permitted OR smoke-free accommodations are more likely to be booked. It is probable that some Airbnb guests seek out smoke-free or smoking-permitted properties and that consumer preferences advantage or disadvantage hosts according to market demand. As more of the traditional hospitality sector goes smoke-free, it will be important to understand how Airbnb hosts and guests respond. Future research could seek to understand how changes in the availability of smoking-permitted hotel accommodations influence the price and availability of smoking-prohibited and smoking-permitted accommodation on Airbnb. P2P platforms can be very responsive to market forces

**Table 1** Airbnb available accommodations in 12 Canadian cities, smoke-free and smoking-permitted properties, and associated costs

Private room						
City	One-night stay, one guest Mean daily cost (\$) and sample size (95% CI)			One-week stay, one guest Mean daily cost (\$) and sample size (95% CI)		
	Proportion of 'Smoking Allowed' listings	Average cost/night non-smoking	Smoking-permitted average cost/night	Proportion of 'Smoking Allowed' listings	Average cost/night non-smoking	Smoking-permitted average cost/night
	Victoria (downtown)	10%	\$90 n=155 (\$84- to \$95)	\$73 n=15 (\$54 to \$91)	9%	\$74 n=300 (\$71-\$78)
Vancouver (downtown)	45%	\$128 n=33 (\$112 to \$143)	\$62 n=15 (\$47 to \$77)	12%	\$113 n=77 (\$103-\$123)	\$95 n=9 (\$67-\$124)
Calgary (downtown)	2%	\$74 n=288 (\$70 to \$78)	\$90 n=6 (\$59 to \$121)	5%	\$53 n=300 (\$50-\$56)	\$60 n=16 (\$45-\$76)
Regina	0%	\$67 n=11 (\$52 to \$82)	N/A	0%	\$63 n=23 (\$55-\$70)	N/A
Winnipeg	4%	\$66 n=69 (\$60 to \$72)	\$64 n=3	5%	\$67 n=62 (\$60-\$73)	\$64 n=3
Toronto (downtown)	18%	\$71 (n=300) (\$68 to \$73)	\$79 n=53 (\$70 to \$88)	37%	\$57 n=300 (\$55-\$59)	\$63 n=110 (\$58-\$69)
Ottawa	5%	\$72 n=300 (\$67 to \$76)	\$54 n=15 (\$43 to \$65)	9%	\$51 n=300 (\$49-\$53)	\$48 n=28 (\$41-\$55)
Montréal (downtown)	69%	\$51 n=300 (\$49 to \$54)	\$52 n=208 (\$49 to \$55)	100%	\$43 n=300 (\$40-\$45)	\$42 n=300 (\$40-\$44)
Fredericton	0%	\$68 n=14 (\$57 to \$78)	N/A	0%	\$57 n=24 (\$49-\$65)	N/A
Charlottetown	0%	\$81 n=27 (\$72 to \$90)	N/A	0%	\$79 n=58 (\$72-\$86)	N/A
Halifax	10%	\$70 n=59 (\$62 to \$76)	\$85 n=7 (\$66 to \$103)	5%	\$62 n=150 (\$58-\$65)	\$58 n=7 (\$36-\$80)
St. John's	4%	\$86 n=26 (\$72 to \$101)	\$48 n=1	3%	\$65 n=40 (\$57-\$73)	\$48 n=1

  

Entire home/apartment						
City	One-night stay, two guests Mean daily cost (\$) and sample size (95% CI)			One-week stay, two guests Mean daily cost (\$) and sample size (95% CI)		
	Proportion of 'Smoking Allowed' listings	Average cost/night non-smoking	Smoking-permitted average cost/night	Proportion of 'Smoking Allowed' listings	Average cost/night non-smoking	Smoking-permitted average cost/night
	Victoria (downtown)	3%	\$120 n=71 (\$113 to \$127)	\$85 n=2	9%	\$94 n=300 (\$90 to -\$98)
Vancouver (downtown)	6%	\$225 n=93 (\$215 to \$235)	\$142 n=6 (\$87 to \$197)	2%	\$204 n=284 (\$198 to 210)	\$168 n=4
Calgary (downtown)	4%	\$117 n=58 (\$108 to \$127)	\$170 n=2	2%	\$113 n=257 (\$109 to \$118)	\$152 n=4
Regina	0%	\$93 n=7 (\$77 to \$109)	N/A	0%	\$85 n=7 (\$70 to \$100)	N/A
Winnipeg	0%	\$98 n=9 (\$84 to \$113)	N/A	9%	\$115 n=11 (\$92 to \$138)	\$200

Continued

Table 1 Continued

City	One-night stay, two guests Mean daily cost (\$) and sample size (95% CI)			One-week stay, two guests Mean daily cost (\$) and sample size (95% CI)		
	Proportion of 'Smoking Allowed' listings	Average cost/night non-smoking	Smoking-permitted average cost/night	Proportion of 'Smoking Allowed' listings	Average cost/night non-smoking	Smoking-permitted average cost/night
Toronto (downtown)	8%	\$159 n=300 (\$146 to 172)	\$143 n=24 (\$124 to \$162)	19%	\$120 n=300 (\$116 to \$124)	\$159 n=58 (\$104 to \$215)
Ottawa	3%	\$110 n=75 (\$104 to \$117)	\$140 n=2	2%	\$98 n=299 (\$95 to \$101)	\$101 n=7 (\$87 to \$115)
Montréal (downtown)	13%	\$89 n=300 (\$86 to \$92)	\$79 n=40 (\$71 to \$88)	36%	\$85 n=300 (\$82 to \$88)	\$87 n=109 (\$81 to \$92)
Fredericton	0%	\$100 n=8 (\$88 to \$113)	N/A	0%	\$96 n=14 (\$87 to \$105)	N/A
Charlottetown	0%	\$97 n=10 (\$87 to \$107)	N/A	0%	\$107 n=37 (\$101 to \$114)	N/A
Halifax	11%	\$99 n=19 (\$90 to \$109)	\$115 n=2	7%	\$102 n=59 (\$96 to \$108)	\$104 n=4
St. John's	0%	\$121 n=16 (\$107 to \$135)	N/A	0%	\$116 n=28 (\$103 to \$130)	N/A

including supply, demand, consumer preferences and price. Hosts, for example can monitor supply and adjust their rates or availability accordingly. Aspects of the Airbnb platform are limited, including the online review section that allows guests and hosts to provide comments about their experiences in real time. Negative reviews could encourage reciprocal critiques and limit the likelihood of such comment postings.

Smoke-free laws have evolved significantly in the last 20 years including expanding into private spaces like hotel rooms and rental cars.<sup>16 17</sup> Some researchers speculate that the next 20 years will see regulations extend to additional private areas including housing.<sup>18</sup> As public policy makers consider how to regulate P2P businesses, public health considerations including smoke-free regulations should be included.

### What this paper adds

- ▶ The hospitality industry, including lodging accommodations (hotels, motels, inns) has increasingly gone smoke-free over the past decade. Emerging peer-to-peer accommodation services, like Airbnb, are growing; however, little is known about tobacco use and/or secondhand smoke exposure in these settings, how permitting smoking might influence costs and if this is an issue between hosts and guests.
- ▶ In this study, we identified smoking-permitted accommodations in 9 of the 12 cities. Costs varied from city to city; in Vancouver, the average cost of a smoke-free, one-night, single-guest accommodation was \$128, compared with \$62 for a smoking-permitted accommodation with the same parameters.
- ▶ Airbnb users do not commonly discuss tobacco smoke issues in the online reviews for smoking-permitted venues suggesting guests and hosts are largely working out expectations around tobacco use.

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