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## Evaluation of Ontario's Menthol Ban

In May 2015, the province of Ontario passed legislation banning the sale of many flavored products, including menthol. The ban on menthol-flavored tobacco products—including cigarettes—came into effect on January 1, 2017. The Ontario ban is one of the first bans on menthol products worldwide, joining the provinces of Nova Scotia, New Brunswick and Alberta and leading the way for the Federal government to implement a national ban on menthol that came into effect in October 2017. This legislation presents a unique opportunity to understand the impacts of a menthol ban on smoking and industry behaviour.

**Key Messages:** Ontario's ban on menthol in tobacco products was found to be associated with quitting behaviour, and potential substitution by other flavoured products. However, there was no increase noted in use of contraband tobacco.

OTRU recruited a cohort of menthol users who have smoked cigarettes in the past month. Eligible participants were residents of Ontario, 16+ years old, who have smoked at least one menthol cigarette in the past year. Participants were recruited through random digit dialing and an online panel. In total, 1007 participants were recruited, including 286 menthol smokers from the random sample and an additional 700 menthol smokers from the online sample. Data from the random sample only was recently published in JAMA Internal Medicine.<sup>1</sup>

Actual behaviours contrast sharply with self-predicted behaviours. Prior to the ban, only 10% of participants predicted that they would quit smoking—however, 40% of menthol smokers attempted to quit smoking shortly after ban's implementation. Similarly, while only 6% predicted they would attempt to substitute other flavoured products for menthol, 29% of participants reported doing so. However, only 3% predicted that they would continue to use other flavoured products as a substitute in the future. While a substantial decrease in menthol cigarette use was observed, a substantial number of smokers still had access to menthol cigarettes 1 month after the ban. However, there was no increase in the use of contraband tobacco. Furthermore, few smokers used aftermarket additive flavourings such as flavour cards (cards that can be placed into tobacco packages to infuse flavour).

Limitations of this study include the unique demographics of menthol in Canada, where menthol cigarettes comprise 5% of cigarette sales (compared to 30% in the US) and use is not concentrated among Black Canadians. Initial results suggest that removing menthol tobacco from the market is a feasible strategy that may influence cessation behaviour, although differences between menthol users in Ontario, Canada and other jurisdictions may affect the potential impact of a ban in other locations. This study is the first evaluation of the immediate effects of a menthol cigarette ban on behaviour change. OTRU is continuing to follow up this cohort of menthol smokers to understand the long term impacts of the menthol ban.

**Table 1: Expected, Short Term Actual, and Long Term Predicted Reactions to the Ban on Menthol in Tobacco, Ontario, Canada. n=744**

	Expected Reaction Prior to Ban	Actual Short Term Reaction <sup>a</sup>	Future Prediction of Long Term Reaction
Use non-menthol cigarettes only <sup>b</sup>	60%	24%	50%
	(53%, 66%)	(21%, 27%)	(43%, 56%)
Quit	14%	40% <sup>c</sup>	17%
	(10%, 20%)	(37%, 44%)	(12%, 23%)
Use alternative flavoured products (e-cigarettes, cigars, and other flavoured tobacco products)	6%	29%	3%
	(3%, 10%)	(23%, 35%)	(1%, 6%)
Use contraband menthol	15%	14% <sup>d</sup>	17%
	(10%, 20%)	(10%, 20%)	(12%, 23%)
Adding menthol/other reaction	2%	3%	~
	(1%, 5%)	(1%, 6%)	
Don't Know	7%	NA	14%
	(4%, 11%)		(10%, 20%)

<sup>a</sup> Actual behaviours were not mutually exclusive, so column does not add to 100%.

<sup>b</sup> Continued or new users of non-menthol cigarettes who did not try to quit, use any menthol product, use any other flavoured product, or add flavour to non-menthol cigarettes.

<sup>c</sup> Quit or Quit Attempt. The percentage quit by this date was 12% (95% CI: 8, 17).

<sup>d</sup> Purchasing menthol cigarettes from a First Nations Reserve, Other Province, Other Country, or Online. Does not include stockpiled cigarettes or those provided by friends. Past month total menthol use from all sources was 35% (95% CI: 29%, 42%). 25% of occasional menthol users attributed quit attempt to ban, 80% of regular users.

## References

<sup>1</sup> Chaiton M, Schwartz R, Cohen JE, Soule E, Eissenberg T. Association of Ontario's Ban on Menthol Cigarettes With Smoking Behavior 1 Month After Implementation. *JAMA Internal Medicine* March 2018. Published online March 5, 2018.

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