Effectiveness of Local Policy Efforts to Increase the Price of Cheap Cigars in Minnesota

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Objectives. To evaluate the effect of novel policies designed to increase cheap cigar prices by setting minimum prices at the local level.

Methods. Between June 2013 and July 2015, we conducted assessments at tobacco retailers in Minnesota cities of Brooklyn Center (n = 26 in sample; n = 18 assessed before and after policy implementation), Saint Paul (n = 25 in sample; n = 14 assessed pre- and postpolicy), and Maplewood (n = 22 in sample; n = 18 assessed pre- and postpolicy), before and after the adoption of policies setting minimum cigar pricing.

Results. After policy implementation across all cities (n = 50), significantly fewer retailers sold single cigars (46% vs 80%; $P < .01$) and 2- or 3-packs (52% vs 74%; $P = .01$). In Saint Paul and Maplewood, the average price of the cheapest available single cigars increased significantly by $1.17 ($P = .03$) and $1.27 ($P < .01$), respectively; the average price of the cheapest 2-pack increased by $2.46 ($P = .02$) in Saint Paul and by $3.08 ($P < .01$) in Maplewood. Policy compliance was high in all cities.

Conclusions. This study highlights the potential of policies setting minimum cigar prices to decrease cigar availability and increase price through nontax approaches. Results indicate that these policies are successful in cities of various sizes. (*Am J Public Health.* 2017;107:127–129. doi:10.2105/AJPH.2016.303517)

US cigarette consumption declined by 25% from 1997 to 2007, whereas cigar use doubled.[1] Most cigar growth was fueled by increased popularity of "little cigars" and cigarillos.[1] These products are often sold in fruit and candy flavors and at prices far below other tobacco products (e.g., "3 for $0.99") and, unlike cigarettes, are marketed on social media. Although cigars cause the same negative health outcomes as cigarettes,[2] evidence indicates that cigars are viewed as safer.[3] Together, these factors likely increase cigars' appeal to youths. In 2014, 8.2% of US high school students reported current cigar use (compared with 9.2% for cigarettes), and cigars were the most commonly used tobacco product among African American high schoolers.[4] Minnesota cigar youth use rates are lower than the national average (4.5%). However, rates vary by location, gender, and age. In Brooklyn Center, Minnesota, a city in our study, 20% of the 11th-grade boys reported using cigars in the last 30 days in 2013.[5]

Increasing tobacco prices is proven to decrease use.[6,7] It is estimated that a 10% increase in prices would reduce adolescent cigar use prevalence by 3.4%.[8] When tobacco taxes are increased, cigarettes are often the focus. This can lead to a price advantage for cigars. Localities are exploring ways to prevent this advantage by setting minimum pricing or prohibiting discounting.[9] Although these policies appear promising, more evidence is needed to measure their effect.[9]

This study sought to evaluate the effect of minimum cigar price policies adopted in 3 Minnesota cities on product pricing and availability. In each jurisdiction, the policy was brought forward by advocates, passed by the city council, and implemented by city staff. Brooklyn Center, a Minneapolis, Minnesota, suburb with 26 tobacco retailers (population = 30 729),[10] was the first Minnesota city to adopt a minimum cigar pricing policy in April 2014. This policy set the minimum price for cigars in packs of 4 or fewer at $2.10 per cigar, meaning that a single cigar must be sold for at least $2.10, a 2-pack for $4.20, a 3-pack for $6.30, and a 4-pack for $8.40. Under this policy, packs of 5 or more cigars can be sold for any price. Saint Paul, Minnesota, with 260 tobacco retailers (population = 297 640),[10] followed by adopting identical policy language in August 2014. Maplewood, a Saint Paul suburb with 35 tobacco retailers (population = 40 199),[10] followed with more restrictive language in May 2015. Maplewood's policy set the cigar price at $2.60 apiece and addressed pricing of larger packs by requiring that 4 or more cigars be sold for at least $10.40.

This is one of the first studies to examine the effect of a minimum pricing policy on cigar prices and availability, helping to fill an identified research gap.[9] To our knowledge, only 1 other study has examined the effect of cigar pricing policies.[11]

METHODS

We conducted assessments at tobacco retailers in the cities of Brooklyn Center, Saint Paul, and Maplewood before and after cigar price policy implementation. In Brooklyn Center and Maplewood, we attempted to assess all tobacco retailers on

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This article was accepted October 8, 2016.

doi: 10.2105/AJPH.2016.303517

the city licensing lists. We assessed 18 retailers in each city before and after policy implementation. In Saint Paul, we drew a random sample of 25 tobacco retailers from the city licensing list; we completed assessments at 14 retailers before and after policy implementation. For all cities combined, we assessed a total of 50 stores before and after policy implementation. Most were gas stations or convenience stores (54%; n = 27), followed by other (22%; n = 11), grocery stores (16%; n = 8), and drugstores (8%; n = 4). Assessments were conducted in Brooklyn Center on June 21, 2013 (prepolicy), and between September 3, 2014, and September 11, 2014 (postpolicy); in Saint Paul between September 18, 2014, and September 26, 2014 (prepolicy), and on December 11, 2014 (postpolicy); and in Maplewood between April 1, 2015, and April 3, 2015 (prepolicy), and July 24, 2015, and July 29, 2015 (postpolicy).

Pairs of trained data collectors conducted assessments. For all cities, we measured the policies' effect on cigar availability, which was determined through observation and by asking the clerk when unclear. In Saint Paul and Maplewood, we also measured policies' effect on cigar price. To measure price, we asked the clerk to sell us the cheapest single cigar available. We purchased single cigars and kept the receipts. The 2-pack and 5-pack prices were recorded, but the products were not purchased.

We calculated summary statistics and sample demographics for the stores assessed by city. We used the McNemar test to compare the proportion of stores selling single cigars, 2- or 3-packs, and 5-packs before and after policy implementation. We used the 2-sided Wilcoxon signed rank test to compare cigar prices before and after policy implementation. Compliance was assessed as yes or no based on observed prices. SAS version 9.4 (SAS Institute, Cary, NC) was used for analyses, and *P* values less than .05 were considered statistically significant.

RESULTS

After policy implementation across all 3 cities (n = 50), significantly fewer tobacco retailers were selling single cigars (46% vs 80%; $P < .01$) and 2- or 3-packs (52% vs 74%; $P = .01$; Table 1).

TABLE 1—Number (%) of Stores Selling Cigars by Subtype, Before and After Cigar Pricing Policy Implementation: Brooklyn Center, Saint Paul, and Maplewood, MN, June 2013–July 2015

City and No. of Cigars	Before, No. (%)	After, No. (%)	*P*
Brooklyn Center (n = 18)	June 21, 2013	September 3–11, 2014	
Single	14 (78)	5 (28)	.004
2- or 3-packs	13 (72)	7 (39)	.031
Maplewood (n = 18)	April 1–3, 2015	July 24–29, 2015	
Single	15 (83)	12 (67)	.25
2- or 3-packs	13 (72)	11 (61)	.69
5-packs	17 (94)	17 (94)	. . .
Saint Paul	September 18–26, 2014	December 11, 2014	
Single (n = 14)	11 (79)	6 (43)	.06
2- or 3-packs (n = 14)	11 (79)	8 (57)	.25
5-packs (n = 13)	9 (69)	11 (85)	.50
All cities (n = 50)			
Single (n = 50)	40 (80)	23 (46)	< .001
2- or 3-packs (n = 50)	37 (74)	26 (52)	.007
5-packs[a] (n = 31)	26 (84)	28 (90)	.63

Note. *P* values are from McNemar test.
[a]5-Packs include only Maplewood and Saint Paul data.

Cigar Pricing

In Saint Paul, the average price of the cheapest available single cigar increased significantly by $1.17 ($P = .03$; n = 6) from $0.97 (SD = $0.04) to $2.14 (SD = $0.06), and the average price of the cheapest available 2-pack increased significantly by $2.46 ($P = .02$; n = 7) from $1.48 (SD = $0.41) to $3.94 (SD = $0.75). The average price of the cheapest available 5-pack changed from $6.31 (SD = $1.23) to $6.06 (SD = $2.34), which was not statistically significant ($P = .46$; n = 8).

In Maplewood, the average price of the cheapest available single cigar increased significantly by $1.27 ($P < .01$; n = 12) from $1.18 (SD = $0.48) to $2.45 (SD = $0.32), and the average price of the cheapest available 2-pack increased significantly by $3.08 ($P < .01$; n = 9) from $1.87 (SD = $1.16) to $4.95 (SD = $0.81). The average price of the cheapest available 5-pack increased from $5.74 (SD = $1.63) to $7.31 (SD = $3.39), which was not statistically significant ($P = .08$; n = 16).

Compliance

After policy implementation, all tobacco retailers in Saint Paul (6 of 6) and 75% of the retailers in Maplewood (9 of 12) that sold single cigars were compliant with pricing requirements. For 2-packs, 88% of the Saint Paul retailers (7 of 8) and 82% of the Maplewood retailers (9 of 11) were compliant. In Maplewood, the only city to address 5-pack pricing, only 35% (6 of 17) of the retailers sold 5-packs at the required price.

DISCUSSION

Several Minnesota cities have adopted novel policies designed to increase cheap cigar prices. We examined the effect of 3 citywide policies setting a minimum price for cigars. Key findings indicate that these policies decreased cigar availability and raised the price of cheap cigars sold singly and in 2-packs. Finally, results indicate that most tobacco retailers complied with policies. These findings are consistent with recent study findings from a similar policy in Boston, Massachusetts[11] (the only other

study to date to examine this). Additional efforts may be needed to ensure that compliance remains high in the long term.

This study had limitations. First, the sample size was small. Second, we did not include comparison cities in our analysis. However, because no relevant policy changes occurred during the study period (such as federal, state, or local tobacco tax increases), it is unlikely that other factors explain the observed price increases. Finally, our preassessment and postassessment periods varied by city. Despite these limitations, this study helps to quantify the real-world effect of policies designed to raise tobacco prices through nontax approaches, an identified research need.[9] Further research is needed to understand the possible effect of such policies on tobacco use and government revenue, and to understand how such policies could be applied to other tobacco products.

PUBLIC HEALTH IMPLICATIONS

Our study highlights the potential of minimum cigar pricing policies to increase cheap cigar prices and decrease availability through nontax approaches. Results indicate that these policies are successful in cities of various sizes. AJPH

CONTRIBUTORS

B. Brock developed the study design, oversaw the data collection, led the development and writing of the article, and is responsible for the overall content. S. C. Carlson conducted data analysis and was involved in drafting and critically reviewing the article. M. Moilanen assisted with study design and critically reviewed the article. B. A. Schillo provided input on study design and critically reviewed the article. All authors have reviewed and approved the final version of the submitted article.

ACKNOWLEDGMENTS

This work was supported by funding from the Minnesota Department of Health and ClearWay Minnesota.

The authors would like to acknowledge Emily Anderson, Alicia Leizinger, and Katie Engman for their advocacy efforts on behalf of the local cigar policies discussed in this article; Chris Farmer-Lies, Amanda Swygard, and Kate Spencer for their data collection assistance; and Raymond Boyle and Adam Kintopf for their review of this article.

HUMAN PARTICIPANT PROTECTION

This study did not require institutional review board approval because it did not involve human participants.

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