



A synthesis of local cigar pack policies in the US

Jessica L King Jensen^{a,*}, Cristine D Delnevo^b, Julie W Merten^c, Brooke Torton^d, Sunday Azagba^{e,f}

^a Department of Health & Kinesiology, University of Utah, Salt Lake City, UT 84112, USA

^b Rutgers Center for Tobacco Studies, Rutgers University, New Brunswick, NJ 08901, USA

^c Brooks College of Health, University of North Florida, Jacksonville, FL 32224, USA

^d Legal Resource Center for Public Health Policy, University of Maryland Francis King Carey School of Law, Baltimore, MD 21201, USA

^e Penn State Ross and Carol Nese College of Nursing, University Park, PA 16802, USA

^f Penn State Social Science Research Institute, University Park, PA 16802, USA

ARTICLE INFO

Keywords:

Cigar
Public policy
Tobacco control
Non-cigarette tobacco products

ABSTRACT

Communities have adopted cigar pack policies to eliminate inexpensive, small packs from being sold and reduce youth use. Still, it is unclear how widespread these policies are and whether they differ based on specific policy components. This study identified and measured local cigar pack size and price policies in the US. We used a systematic 14-step process to identify, obtain, and code local cigar pack policies, including pack size and pricing. Between January and July 2021, we identified 299 local cigar pack policies in the US. Policies were (1) identified through municipal code review and requests to state tobacco control representatives, (2) obtained online or from municipality representatives, and (3) double-coded for minimum pack size, minimum price, adopted/enforcement dates, cigar definitions, differences in pack size/price by cigar type, price adjustments, whether the price is before discounts, policy exclusions, and enforcement. We identified 259 municipalities with cigar pack policies, 40 of which amended the pack size or price requirements after initial adoption, resulting in 299 policies. Policies specified eight different pack size requirements ranging from 2 to 25; most prevalent were minimums of 2 ($n = 116$, 39.2%) and 4 ($n = 67$, 22.6%). Minimum prices ranged from \$0.35 to \$10.00 per cigar. Exclusions included cigars priced above a specified amount ($n = 225$, 76.0%; \$2.01-\$10.00) and cigars sold at adult-only or tobacco retailers ($n = 45$, 15.2%). This is the first comprehensive synthesis of cigar pack size and price policies within the US. Policies vary widely both between and within states.

1. Introduction

Tobacco use remains the leading cause of preventable morbidity and mortality, contributing to 480,000 deaths in the United States (US) each year. (United States, Public Health Services, 2014) Tobacco control efforts, including prevention campaigns and policies, have led to significant reductions in cigarette use. However, cigar use remains a public health burden, with 12 million adults and 5 million youth reporting past 30-day cigar use. (Cornelius, 2019) Cigar use is associated with numerous health harms, including heart disease, stroke, and cancer, (Chang et al., 2015; Christensen et al., 2018) and use remains highest among Black youth and young adults and among adults with low socioeconomic status. (Wang, 2017; Wang, 2018).

Cigars are a product class with subtypes based on size, product

features, price, and manufacturing. Typically, there are three broad subtypes: traditional or large cigars, cigarillos, and filtered cigars. (Dickinson et al., 2016) A recent report highlighted the importance of further separating large cigars into premium and non-premium products. (Academies, 2022) These subtypes differ based on product characteristics, patterns of use, user characteristics, price, and purchase behaviors. (Corey et al., 2018; King et al., 2020; Azagba et al., 2021) From a regulatory standpoint, the distinctions between cigar subtypes are less clear.

Cigars are available for retail sale in the US in at least 12 different pack sizes, ranging from singles to 60 + packs. (Gammon et al., 2019) In contrast, cigarettes are federally mandated to be sold in pack sizes of at least 20. (Food and Drug Administration, 2009) The discrepancy between pack sizes for cigars and cigarettes results in a lower pack price for

* Corresponding author at: 250 S 1850 E, Rm 255, Salt Lake City UT 84112, USA.

E-mail addresses: jess.king@utah.edu (J.L. King Jensen), delnevo@cts.rutgers.edu (C.D. Delnevo), jmerten@unf.edu (J.W. Merten), BTorton@law.umaryland.edu (B. Torton), spa5695@psu.edu (S. Azagba).

<https://doi.org/10.1016/j.pmedr.2022.101865>

Received 31 January 2022; Received in revised form 14 June 2022; Accepted 22 June 2022

Available online 24 June 2022

2211-3355/© 2022 The Authors. Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

cigars. This low price, coupled with the availability of flavors and other product characteristics, likely leads to continued use of cigar products, particularly among youth. (Kong et al., 2019)

Communities have responded to the continued use of cigars by enacting policies to increase price and reduce use. (Brock et al., 2016; Sbarra et al., 2016) Larger pack sizes often cost more per pack than smaller packs, (King et al., 2020; Persoskie et al., 2019) which is a common reason consumers purchase smaller packs. (King et al., 2021; Giovenco et al., 2018) There is strong evidence from the cigarette literature that increasing price is an effective way to reduce use, and vulnerable populations like youth and adults with low socioeconomic status are particularly price sensitive. (Chaloupka et al., 2019) In the absence of federal or state restrictions on cigar packaging, municipalities across the US have adopted minimum cigar pack size and price policies in an effort to increase cigar pack price, reduce access to inexpensive cigars, and reduce youth access. (Commission and Regulations, 2019) Cigar pack policies may establish minimum pack sizes or minimum prices for packs, which reduce the availability of inexpensive cigars. Four studies have examined marketplace changes following cigar pack policy adoption. Three studies examined the impact of policies adopted in Massachusetts (Sbarra et al., 2016; Li et al., 2017; Kephart et al., 2019) while one examined the impact of policies adopted in Minnesota. (Brock et al., 2016) In each of these studies, the parameters for minimum pack size and/or minimum price varied, but the findings consistently indicate the policies reduced the availability of single cigars in the policy communities. However, because there are no sources actively tracking these policies, the full scope of policies and their potential impact across the US is unclear.

This study aimed to identify and measure local cigar pack policies across the US. In measuring the policies, we sought to determine whether policies included “model language.” Pulling from expert recommendations and best practices for other tobacco policies, (Golden et al., 2016; Dobbs et al., 2021) we identified five potential key policy components applicable to cigar pack policies: (1) defining the product (s), (2) including a minimum price alongside the minimum pack size, (3) including automatic price adjustments, (4) explicitly stating the minimum price is after any coupons or promotions are accounted for, and (5) including a clear enforcement protocol. It is worth noting that existing cigar policies are overwhelmingly directed at inexpensive, machine-made cigars (i.e., cigarillos and filtered cigars), while larger (premium) cigars are often represented by the cigar lobby, resulting in exemptions from policies.

2. Methods

To identify and measure local cigar pack policies, we used the procedures described by Anderson, Tremper, and colleagues (see Fig. 1) (Anderson et al., 2012) and the PRISMA reporting guidelines. (Page et al., 2021) According to Anderson et al, “measuring law” is *determining relevant dimensions or components of an area of law, categorizing the legal elements of a policy, and using the resultant categorization schema to produce accurate representations of the law in terms of counts and numeric indicators.* (Anderson et al., 2012) The process consists of 14 steps across two phases, an overview of which follows. For additional details, please refer to their Monograph. (Anderson et al., 2012) Phase 1, the Design Phase, involved identifying the research question, establishing the legal framework (i.e., local-level policy), specifying the policy scope (i.e., entire US, without time parameters), and developing the conceptual model. These steps provided the groundwork for appropriately measuring the regulations, and in the present study occurred at the proposal stage of the larger study focused on evaluating the impact of cigar pack policies. The remaining steps in the Design Phase involved identifying and defining the assessed policy dimensions, pre-testing the measures with a sample of policies, revising the codebook as necessary, and formalizing the codebook and protocol. A list of potential key policy dimensions was developed based on expert recommendations and best

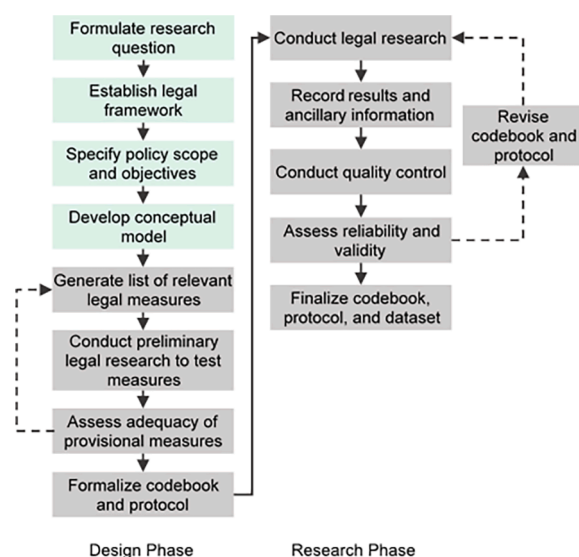


Fig. 1. Systematic process to identify and measure cigar pack policies.

practices for other tobacco policies. Within each dimension, specific items for coding were identified. Measures were revised after reviewing policies from each state as broad formatting and content differences exist across states. After the codebook and protocol were formalized, we completed the Research Phase by conducting the legal research, or in other words, identifying the policies, obtaining the policies, and coding them, detailed below.

To identify local policies, we searched online legal compilations (e.g., American Legal, Municode, Westlaw) using key words and contacted public health and tobacco control organizations to identify states with local policies. Through these steps, we identified 79 locations with possible policies, primarily concentrated within three states (California [CA], Minnesota [MN], Massachusetts [MA]). Because legal compilations do not include all jurisdictions, for these three states, our team conducted a full municipal code review for all municipalities within the state and then confirmed our findings with listings tracked by the state. For the remaining 47 states and Washington DC, we contacted state-level tobacco control staff to determine whether the state had any local cigar pack policies beyond those we were already aware of (e.g., New York City).

For all jurisdictions with an identified policy, we conducted an online review and/or contacted relevant municipal authorities to obtain the actual policy for coding. Policy search and coding were conducted from January to July 2021. We identified policies in 259 municipalities; 40 municipalities changed the minimum pack regulation after initial policy adoption, resulting in 299 policies. We obtained the policy document for 296 of 299 identified policies. Regulations that were adopted but never effective were excluded from the analysis (e.g., those in Maryland).

The five potential key policy components guided the legal measures extracted from each policy. From each policy, we collected policy type, the adopted, effective, and enforcement dates, cigar definitions, differences in policy characteristics by cigar type, policy exclusions, price adjustments, discount exclusions, and enforcement actions. We also assessed whether the policy included automatic increases in price and whether the price components were explicitly or implicitly inclusive of coupons or discounts. For enforcement, coders noted (1) the parties responsible for compliance monitoring and enforcement, (2) the frequency for compliance monitoring, (3) monetary fines, suspensions, and revocations, and (4) whether the enforcement included “will” or “shall” language (a standard for enforcement strength). Details on how these items were operationalized and measured are available in the Supplemental File. Two team members conducted both the search and coding

processes for each municipality to increase the likelihood of accurately identifying and measuring all policies. Any legal or interpretation questions were referred to tobacco control or legal staff within the respective jurisdictions or a coauthor with legal expertise.

3. Results

3.1. Sample characteristics

Policies were identified in Massachusetts (n = 221), California (n = 44), Minnesota (n = 27), Illinois (n = 1), New York (n = 1), and the District of Columbia (DC). The earliest policy was effective in 2011, with additional policies effective each year since: 3 in 2012, 27 in 2013, 54 in 2014, 40 in 2015, 48 in 2016, 29 in 2017, 32 in 2018, 30 in 2019, 27 in 2020, and 5 as of July 1, 2021 (see Fig. 2). In Minnesota, California, Illinois, New York, and DC, policies were adopted as ordinances through city or county councils. In Massachusetts, most policies were adopted as regulations by the respective Board of Health.

3.2. Policy type

We identified three mutually exclusive types of cigar pack policies, including minimum pack size policies (n = 89, 30.1%), minimum pack size policies with price floors (n = 145; 49.0%), and minimum price policies (n = 62; 20.9%). Table 1 includes example policy language for each policy type Table 2.

Minimum Pack Sizes Policies with a minimum pack size component (n = 234) specified eight different pack size requirements ranging from 2 to 25. Most prevalent were minimums of 2-packs (n = 118; 50.4% of pack size policies) and 4-packs (n = 68; 29.1%). Twenty-two communities (9.4%) had minimum pack size requirements of 10 or larger. In Minnesota, seven policies were categorized as pack size policies based on their definition of loosies as “single or individually packaged cigars or cigarettes offered for sale, regardless of whether they have been removed from their original retail packaging.”

Some policies (n = 25, 10.7%) differentiated pack size based on cigar type, typically allowing smaller pack sizes (i.e., 2–5) for products defined as large cigars and larger pack sizes (i.e., 6–25) for little cigars. One policy (0.4%) differentiated between little cigars and cigarillos, with minimum pack sizes of 20 and 25, respectively. Over half of pack size policies (n = 152, 64.9%) also included a price floor, ranging from \$2.50 for a 2-pack or 4-pack to \$12.50 for a 5-pack. Notably, 215 (91.9%) pack size policies excluded cigars above a particular price point (\$2.01-\$10.00 per cigar).

Minimum Price Policies Sixty-two regulations included minimum prices for cigars, beyond having a price floor for the minimum pack size regulations. The required minimum price per cigar ranged from \$0.35 to

Table 1

Example Policy Language by Policy Type.

Minimum Pack Size without Price
No retailer may sell any little cigar or cigarillo unless it is sold in a package of at least 20 little cigars or cigarillos.
Minimum Pack Size with Price Floor
A tobacco retailer shall not sell a pack of cigars unless it contains at least 5 cigars and is sold for a minimum price of \$8.00 per pack.
Minimum Price
It shall be a violation to sell a pack containing 5 or fewer cigars for a sales price less than \$2.10 per cigar. No person shall sell cigars in a pack containing 6 or more cigars for a sale price less than \$12.60 per package.

\$5.00. Five policies (8.0% of price policies) differentiated price based on cigar type, with large cigars typically having higher minimum prices than little cigars.

3.3. Cigar definitions

Of 296 policies, 279 (94.6%) included a definition for cigars. Most policies defined cigars as tobacco wrapped in tobacco, with most Minnesota and Massachusetts policy definitions also referring to their state statutes to differentiate cigars from cigarettes. Twenty-eight policies (10.0% of policies with definitions) included separate definitions for little cigars, with 96.4% of those definitions differentiating based on cigar weight (e.g., three [or four] pounds per thousand). Only three policies (1.1%) included a specific definition for premium or large cigars, with an additional five referring to the state policy for a definition. Sixteen policies (5.7%), included the word “blunt” within their definitions of cigars, typically as an example of product terms covered by “little cigar.”

3.4. Exclusions

Most policies (N = 229; 77.4%) included at least one type of exclusion. The most common exclusion (n = 225; 98.3% of policies with exclusions) was excluding cigars priced above a specified amount (\$2.01-\$10.00). These are likely implicit exclusions of premium cigars. (Corey et al., 2018) Forty-three policies (18.8%) excluded cigars sold at adult-only or tobacco specialty stores, and four policies explicitly excluded premium cigars.

3.5. Price adjustments

Among 283 policies with either a minimum price component or price exclusion, most policies (n = 231, 81.6%) included language about price adjustments. Language varied, both in terms of when the price would be adjusted and how. Statements for when the price would be updated included “time to time,” “every 3 years,” “periodically,” and “annually,” with only 18 including a specific date for increase. Most (n = 220; 95.2% of policies with price adjustments) of these adjustments were based on the Consumer Price Index, while five policies stated it would be based on “inflation” or “public health concerns,” and seven policies did not specify.

3.6. Policy states minimum price is after discounts

The price floor or minimum pricing regulations were explicitly noted within 22 policies to include any discounts or price promotions. For example, several communities in Minnesota noted the minimum retail price would be “after any price promotions or discounts are taken into account and before the imposition of sales tax, but after the imposition of excise tax.” In 125 additional communities with cigar pack size or price policies, coupon redemptions were banned elsewhere within the policy.

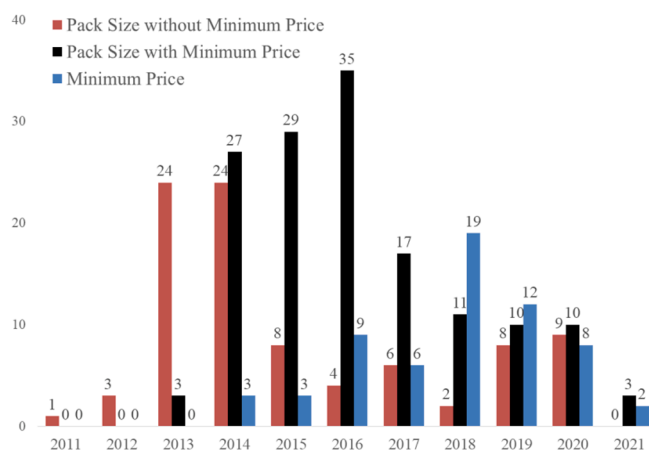


Fig. 2. Number of policies by effective year and policy type.

Table 2
Local Cigar Pack and Price Regulation Characteristics, n (%).

	Total US n = 296	CA n = 44	DC n = 1	IL n = 1	MA n = 221	MN n = 27	NY n = 1
Cigar Definition Included	279 (94.3)	36 (81.8)	0 (0)	1 (1 00)	219 (99.1)	21 (77.8)	2 (1 00)
Pack Size Policy with no Price	89 (30.1)	25 (56.8)	1 (1 00)	0 (1 00)	50 (22.6)	13 (48.1)	0 (0)
Pack Size Policy with Price ^a	145 (49.0)	15 (34.1)	0 (0)	1 (1 00)	124 (56.1)	3 (11.1)	2 (1 00)
Price Only Policy	62 (20.9)	4 (9.1)	0 (0)	0 (0)	47 (21.3)	11 (40.7)	0 (0)
Policy Differs by Cigar Type ^b	32 (10.8)	24 (54.5)	0 (0)	1 (1 00)	0 (0)	5 (18.5)	2 (1 00)
States Price is after Promotions ^c	22 (7.4)	0 (0)	0 (0)	0 (0)	1 (0.5)	21 (77.8)	0 (0)
Price Automatically Adjusted	18 (6.1)	15 (34.1)	0 (0)	0 (0)	1 (0.5)	2 (7.4)	0 (0)
Policy Exclusions ^d	229 (77.4)	32 (72.7)	0 (0)	0 (0)	180 (81.4)	16 (59.3)	1 (50.0)
Escalating Penalties ^e	285 (96.3)	40 (90.9)	0 (0)	1 (1 00)	220 (99.5)	23 (85.2)	1 (50.0)

Notes: CA = California; DC = Washington DC; IL = Illinois; MA = Massachusetts; MN = Minnesota; NY = New York; ^aPack Size Policy with Price refers to pack size policies that include a minimum price for minimum pack size; ^bPolicy differs by Cigar Type refers to policies having different requirements based on cigar type (little vs premium); ^cStates Price is after Promotions refers to explicitly stating the minimum price is after any coupons or promotions are accounted for; ^dExclusions identified included cigars priced above a stated amount, those at retail tobacco stores or adult only retailers, and premium cigars; ^eEscalating Penalties refers to more stringent penalties at each violation.

3.7. Enforcement and violations

Enforcement was conducted by health officials in 215 (73.6%) policies, by law enforcement in 30 (10.3%), by a peace officer in 21 (7.2%), and by city or county officials in 20 (6.8%). Compliance monitoring was specified in 58 policies, ranging from one to four times per year; most policies did not mention compliance beyond describing minimum legal sale age action. Most policies (n = 277; 93.6%) included the potential for suspension of tobacco sales, usually at the 2nd violation; 194 policies (65.5%) noted the potential for revocation, usually at the 4th violation. Violation fees ranged from a non-specified fine amount for retailers to \$5,000 per violation. Just over half of the policies (52.6%) used “may” language when discussing violations, while the remaining used “shall” or “will” (e.g., violation “may” result in a 10-day license suspension).

4. Discussion

Local policies are a tool for cities and counties to take a stand on issues relevant to their communities. Using a systematic search process, we identified 259 communities in the US with a cigar minimum pack size or minimum price policy, covering over 12 million residents. Local policies are heavily concentrated in Massachusetts (covering 68.3% of the population), California (6.3% of the population covered), and Minnesota (10.0% of the population covered), with additional policies in Illinois, New York, and DC. Pack size requirements ranged from eliminating singles to requiring pack sizes of 25, while prices ranged from \$0.35 to \$10.00 per cigar.

We measured policies based on their inclusion of several key criteria noted within other policy areas: (1) defining the product(s), (2) including a minimum price alongside the minimum pack size, (3) including automatic price adjustments, (4) explicitly stating the minimum price is after coupons or promotions are accounted for, and (5) including a clear enforcement protocol. Only 5 policies included each of these features. While most (97.0%) policies included at least one of these features, there were notable limitations. Most policies included a definition for cigars, but only 30 policies had different criteria for large cigars and little cigars, and only one policy had specific criteria for cigarillos. Use patterns differ by cigar type, (Azagba et al., 2021) and, the implications of a pack size policy may also vary. For example, little cigars often come in larger pack sizes, while cigarillos and large cigars are often sold in smaller pack sizes. (King et al., 2020) For communities establishing larger minimum pack sizes (e.g., greater than ten), this may represent a large increase from the standard cigarillo pack size of one or two per pack. While this is likely intended to reduce use, it could result in increased consumption. (King et al., 2020; Persoskie et al., 2019) Additionally, despite the prevalence of using cigars as blunts, few policies included this terminology. This finding may be related to the potential misalignment between regulatory authority and practice.

(Caulkins and Kilborn, 2019) Most minimum pack size policies had a minimum price, particularly more recently adopted policies. This is likely in response to the industry initially selling larger pack sizes for low prices when policies were first adopted. (Sbarra et al., 2016) Only 18 policies specified a time period for automatic price adjustments, which makes it unclear whether prices will be adjusted with inflation. Just over half of policies excluded coupons or discounts. In the majority of these exclusions, promotions were entirely restricted, rather than being specific to the minimum cigar price. Though 37 specified a time frame for compliance checks, none of the policies specified compliance checks specific to cigar pack size and price; whether the cigar pack policies are actively enforced remains unclear. Enforcement and compliance are noted areas for improvement in local tobacco policies. (Dobbs et al., 2021) Future research is needed to understand how pack size and price policies impact use and behavior, as well as whether these specific components are necessary.

We identified broad variability both within and across states, though patterns did emerge. For example, the earliest policies adopted were minimum pack size policies. In 2014, there was an increase in minimum pack size policies with a minimum price. In 2014, price only policies began to be adopted, with these most prevalent by 2018. Since 2019, the proportion of all three policy types has been more similar. While comprehensively examining the characteristics and predictors of policy diffusion was outside the scope of this study, it appears local policy diffusion occurred within Massachusetts, whereby localities learned from the early adopters and revised their policies over time. (Shipan and Volden, 2012) However, it remains unclear what drives pack size and price decisions, as research on the effectiveness of policy specifications remains limited.

For this study, we differentiated between pack size and price policies based on the language used within each policy. However, several pack size policies are functionally equivalent to some pricing policies. For example, a minimum pack size policy that prohibits single cigars but excludes cigars priced at \$2.50 or more is functionally equivalent to a pricing policy that sets the minimum price of single cigars at \$2.50. Each instance eliminates inexpensive single cigars from the market while allowing premium or more expensive cigars to remain for legal sale. Minimum pack size policies are a policy option to reduce the availability of low-cost products that appeal to youth without eliminating products that typically appeal to adults. (Azagba et al., 2021) While the policy language is functionally equivalent, it is unclear whether the industry response is similar in each instance, and whether policies result in increases in the price of single cigars or shifts to larger pack sizes. Evaluations of communities in Massachusetts and Minnesota found that both single cigar availability decreased and cigar sale price increased after policy adoption. (Brock et al., 2016; Sbarra et al., 2016; Li et al., 2017; Kephart et al., 2019) However, those analyses examined the impact of minimum pack sizes of 2; it is unclear how larger pack sizes and price

restrictions will shift market availability and price.

While local cigar pack policies have been consistently adopted across the past decade, policies remain heavily concentrated within three states with historically strong or moderately strong tobacco control programs. (Campaign for Tobacco-Free Kids, 2022) The continued spread of local cigar pack and price policies might be limited due to preemption. Preemption remains a critical deterrent to local tobacco control. (Healthy People 2030, 2020) Across the US, 22 states preempt local authorities from establishing tobacco regulations more stringent than those at the state level regarding youth access. (Centers for Disease Control and Prevention, 2019) Because most cigar pack size and price policies may be considered youth access restrictions based on their rationales, (Commission and Regulations, 2019) preemption is likely a critical barrier for widespread adoption.

5. Limitations & future studies

There are several notable limitations to this study. First, local policy details are challenging to track. We may have missed policies in our search, including amendments or policies that were repealed. It is also possible our coding scheme differs from how local authorities interpret the policy. Additionally, of the 299 policies identified, 74.7% were from Massachusetts, which adopted similar policy language across the state. As such, estimates reported should be interpreted with this consideration. Finally, policies exist within a regulatory environment and their impact is likely a result of synergistic or complementary effects of other policies. With regard to cigar pack policies, other policies we are aware of that may impact cigar pack size and price include flavored policies, cannabis or blunt wrap restrictions, and state cigar tax regulations. These will be critical to examining cigar pack policies' effectiveness in reducing tobacco use. Likewise, examining the geographic distribution of policies and coverage among those most susceptible to use will be critical for future studies. An early evaluation of the Boston regulations found that the policy reduced the disparities in availability across neighborhoods; (Li et al., 2017) continued work to ensure policies do not increase inequities is needed.

6. Conclusions

As of July 2021, over 250 communities in the US have cigar pack size or price policies in place, suggesting this is a key area for continued research to inform best practices for local adoption as well as local-to-state and local-to-federal policy diffusion. Local policies have the potential to inform state and federal policies, as evidenced by the recent Tobacco 21 movement, whereby locality and state policy momentum led to the federal increase of the minimum legal sales age in the US to 21. (Hudson et al., 2021) Monitoring the local trends in cigar packaging regulations and identifying key factors of effectiveness will be critical to establishing an evidence base to set a cigar product standard for federal regulation or informing future state regulation.

Funding

Research reported in this publication was supported by grant number K01CA253235, from the National Cancer Institute and the FDA Center for Tobacco Products. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH or the FDA.

CRedit authorship contribution statement

Jessica L King Jensen: Conceptualization, Data curation, Formal analysis, Funding acquisition, Methodology, Project administration, Supervision, Writing – original draft. **Cristine D Delnevo:** Writing – review & editing. **Julie W Merten:** Data curation, Methodology, Supervision, Writing – review & editing. **Brooke Torton:** Data curation,

Writing – review & editing. **Sunday Azagba:** Conceptualization, Methodology, Writing – review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

We acknowledge the following for their support in identifying, obtaining, and coding policies: Momina Sial, Anna Bilic, and Kayla Rebentisch for helping identify and code policies; Natalie Hemmerich, Mary Fleming, and Edmund Pine of the Public Health Law Center for helping identify Minnesota policies; Melody Kingsley, Patricia Henley, and DJ Wilson for helping identify Massachusetts policies; Rebecca Williams of the California Tobacco Control Program, for helping identify California policies; and countless local staff for sending policies and clarifying dates and other information.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.pmedr.2022.101865>.

References

- National Academies of Sciences, Engineering, and Medicine. *Health Effects and Patterns of Use of Premium Cigars* | National Academies.; 2022. Accessed April 6, 2022. <https://www.nationalacademies.org/our-work/health-effects-and-patterns-of-use-of-premium-cigars>.
- Anderson ED, Tremper C, Thomas S, Wagenaar AC. *Measuring Statutory Law and Regulations for Empirical Research*. Social Science Research Network; 2012. Accessed June 25, 2021. <https://papers.ssrn.com/abstract=2021191>.
- Azagba S, King JL, Shan L. Characteristics differ based on usual cigar-type use among U. S. adults: Analysis from the tobacco use supplement to the current population survey. *Prevent. Med. Rep.* 2021;24:101560. doi:10.1016/j.pmedr.2021.101560.
- Brock, B., Carlson, S.C., Moilanen, M., Schillo, B.A., 2016. Effectiveness of Local Policy Efforts to Increase the Price of Cheap Cigars in Minnesota. *Am. J. Public Health.* 107 (1), 127–129. <https://doi.org/10.2105/AJPH.2016.303517>.
- Campaign for Tobacco-Free Kids. *Broken Promises to Our Children*, 2022. Accessed April 7, 2022. <https://www.tobaccofreekids.org/what-we-do/us/statereport>.
- Caulkins, J.P., Kilborn, M.L., 2019. Cannabis legalization, regulation, & control: a review of key challenges for local, state, and provincial officials. *Am. J. Drug Alcohol Abuse.* 45 (6), 689–697. <https://doi.org/10.1080/00952990.2019.1611840>.
- Centers for Disease Control and Prevention. *State Tobacco Activities Tracking and Evaluation (STATE) System*. Published December 19, 2019. Accessed January 23, 2020. <https://www.cdc.gov/statesystem/index.html>.
- Chaloupka, F.J., Powell, L.M., Warner, K.E., 2019. The Use of Excise Taxes to Reduce Tobacco, Alcohol, and Sugary Beverage Consumption. *Ann. Rev. Public Health.* 40 (1), 187–201. <https://doi.org/10.1146/annurev-publhealth-040218-043816>.
- Chang, C.M., Corey, C.G., Rostron, B.L., Apelberg, B.J., 2015. Systematic review of cigar smoking and all cause and smoking related mortality. *BMC Public Health.* 15 (1), 390. <https://doi.org/10.1186/s12889-015-1617-5>.
- Christensen, C.H., Rostron, B., Cosgrove, C., et al., 2018. Association of Cigarette, Cigar, and Pipe Use With Mortality Risk in the US Population. *JAMA Intern Med.* 178 (4), 469–476. <https://doi.org/10.1001/jamainternmed.2017.8625>.
- Boston Public Health Commission. *Tobacco Control Regulations*; 2019. Accessed April 6, 2022. <https://bphc.org/boardofhealth/regulations/Pages/Tobacco-Control-Regulations.aspx>.
- Corey, C.G., Holder-Hayes, E., Nguyen, A.B., et al., 2018. US Adult Cigar Smoking Patterns, Purchasing Behaviors, and Reasons for Use According to Cigar Type: Findings From the Population Assessment of Tobacco and Health (PATH) Study, 2013–2014. *Nicotine Tob Res.* 20 (12), 1457–1466. <https://doi.org/10.1093/ntr/ntx209>.
- Cornelius ME. Tobacco Product Use Among Adults — United States, 2019. *MMWR Morb Mortal Wkly Rep.* 2020;69. doi:10.15585/mmwr.mm6946a4.
- Dickinson, D.M., Johnson, S.E., Coleman, B.N., Tworek, C., Tessman, G.K., Alexander, J., 2016. The Language of Cigar Use: Focus Group Findings on Cigar Product Terminology. *Nicotine Tob Res.* 18 (5), 850–856. <https://doi.org/10.1093/ntr/ntv285>.
- Dobbs PD, Chadwick G, Dunlap CM, White KA, Cheney MK. Tobacco 21 Policies in the U. S.: The Importance of Local Control With Federal Policy. *Am. J. Prev. Med.* Published online February 15, 2021. doi:10.1016/j.amepre.2020.12.009.

- Food and Drug Administration, HHS. *Family Smoking Prevention and Tobacco Control Act*; 2009. Accessed October 8, 2019. <https://www.govinfo.gov/content/pkg/PLAW-111publ31/pdf/PLAW-111publ31.pdf>.
- Gammon DG, Rogers T, Coats EM, Nonnemaker JM, Henriksen L. Little filtered cigars: US sales, flavours, package sizes and prices. *Tobacco Control; London*. 2019;28(3):346. doi:<https://doi.org/10.1136/tobaccocontrol-2018-054405>.
- Giovenco, D.P., Spillane, T.E., Mauro, C.M., Martins, S.S., 2018. Cigarillo sales in legalized marijuana markets in the U.S. *Drug Alcohol Depend.* 185, 347–350. <https://doi.org/10.1016/j.drugalcdep.2017.12.011>.
- Golden SD, Farrelly MC, Luke DA, Ribisl KM. Comparing projected impacts of cigarette floor price and excise tax policies on socioeconomic disparities in smoking. *Tobacco Control*. 2016;25(Suppl 1):i60-i66. doi:10.1136/tobaccocontrol-2016-053230.
- Healthy People 2030, HHS, Office of Disease Prevention and Health Promotion. Eliminate policies in states, territories, and DC that preempt local tobacco control policies. Accessed August 31, 2021. <https://health.gov/healthypeople/objectives-and-data/browse-objectives/tobacco-use/eliminate-policies-states-territories-and-dc-preempt-local-tobacco-control-policies-tu-20/data>.
- Hudson, S.V., Kurti, M., Howard, J., et al., 2021. Adoption of Tobacco 21: A Cross-Case Analysis of Ten US States. *Int. J. Environ. Res. Public Health*. 18 (11), 6096. <https://doi.org/10.3390/ijerph18116096>.
- Kephart, L., Song, G., Henley, P., Ursprung, W.W.S., 2019. Single Cigar Price and Availability in Communities With and Without a Cigar Packaging and Pricing Regulation. *Prev. Chronic Dis.* 16 <https://doi.org/10.5888/pcd16.180624>.
- King, J.L., Shan, L., Azagba, S., 2020. Association between purchasing behaviors and cigar use: A longitudinal analysis of Waves 1–3 of the Population Assessment of Tobacco and Health (PATH) Study. *PLOS ONE*. 15 (6), e0235496.
- King, J.L., Bilic, A., Merten, J.W., 2021. Reasons for Pack Size Purchase among US Adults Who Purchase Cigars. *IJERPH*. 18 (15), 7790. <https://doi.org/10.3390/ijerph18157790>.
- Kong, G., Creamer, M.R., Simon, P., et al., 2019. Systematic review of cigars, cigarillos, and little cigars among adolescents: Setting research agenda to inform tobacco control policy. *Addictive Behaviors*. 96, 192–197. <https://doi.org/10.1016/j.addbeh.2019.04.032>.
- Li, W., Gouveia, T., Sbarra, C., et al., 2017. Has Boston's 2011 cigar packaging and pricing regulation reduced availability of single-flavoured cigars popular with youth? *Tobacco Control*. 26 (2), 135–140. <https://doi.org/10.1136/tobaccocontrol-2015-052619>.
- Page, M.J., McKenzie, J.E., Bossuyt, P.M., et al., 2021. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*. 372, n71 <https://doi.org/10.1136/bmj.n71>.
- Persoskie, A., O'Brien, E.K., Donaldson, E.A., et al., 2019. Cigar package quantity and smoking behavior. *BMC Public Health*. 19 (1), 868. <https://doi.org/10.1186/s12889-019-7205-3>.
- Sbarra, C., Reid, M., Harding, N., Li, W., 2016. Promising Strategies to Remove Inexpensive Sweet Tobacco Products From Retail Stores. *Public Health Rep.* 132 (1), 106–109. <https://doi.org/10.1177/0033354916679986>.
- Shipan, C.R., Volden, C., 2012. Policy Diffusion: Seven Lessons for Scholars and Practitioners. *Public Administ. Rev.* 72 (6), 788–796. <https://doi.org/10.1111/j.1540-6210.2012.02610.x>.
- United States, Public Health Services, Office of the Surgeon General, National Center for Chronic Disease Prevention and Health Promotion (U.S.), Office on Smoking and Health. *The Health Consequences of Smoking-50 Years of Progress: A Report of the Surgeon General, 2014*. U.S. Dept. of Health and Human Services, Public Health Service, Office of the Surgeon General; 2014.
- Wang TW. Tobacco Product Use Among Adults — United States, 2017. *MMWR Morb Mortal Wkly Rep.* 2018;67. doi:10.15585/mmwr.mm6744a2.
- Wang TW. Tobacco Product Use Among Middle and High School Students — United States, 2011–2017. *MMWR Morb Mortal Wkly Rep.* 2018;67. doi:10.15585/mmwr.mm6722a3.