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STATE OF THE EVIDENCE: FLAVORED TOBACCO PRODUCT BANS OR RESTRICTIONS

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In recent years, the evidence around flavored tobacco product bans and restrictions has grown in terms of public support, public health and financial impact, and compliance. The purpose of this report is to provide an overview of the projected impacts of a policy that bans or restricts the use of flavors in tobacco products and to provide evidence-based policy recommendations for maximizing public health benefits and minimizing unintended consequences.

BACKGROUND

In 2009 the U.S. Food and Drug Administration (FDA) banned flavored cigarettes with an exemption for menthol additives. As intended, cigarette use among youth declined in the years following the ban; however, unintended consequences have emerged, with youth increasing their use of other products known for their flavors, such as menthol cigarettes, cigars, and pipes.[1]

In this historical context, pod-based electronic cigarettes (e-cigarettes),[*] such as JUUL, have emerged as the tobacco product of choice among youth due to kid-appealing flavors (e.g., mango and mint), discreet design (i.e., flash drive-like appearance), savvy social media marketing (e.g., social media influencers and celebrity endorsements), and extremely high nicotine levels with chemicals added to ensure the nicotine is less harsh to users. The totality of these factors has resulted in what many public health advocates have labeled an epidemic.

Nationally, 3.6 million middle and high school students are reported to be current e-cigarette users (any use in past 30 days), with e-cigarette use among high-school students more than doubling from 2017 to 2019, increasing from 12% to 28%.[5] In Maryland, use in high schools has increased from 13% in 2016-17 to 23% in 2018-19, representing an increase of 73%. For comparison, use among adults in Maryland increased from 3% in 2016 to 4% in 2018,[†] representing an increase of 34%.[7]

To help combat this public health issue, in 2019 the Maryland General Assembly passed HB1169, an evidenced-based bill that raised the minimum age of tobacco sale from 18 to 21 years old, with an exemption for 18-20 year old adults with a military identification. The strength of this bill will be aided with the recent signing of a 2020 Federal appropriations bill that raises the federal minimum age to 21 and does not include an exemption for military service members. While these are positive steps, there are many ways in which youth can acquire tobacco products and the evidence available suggests compliance is highly unlikely to be 100%, with tobacco and vape specialty shops being the most likely to violate the law.[8] These data suggest additional policy interventions, such as flavor bans or restrictions, may be necessary to prevent youth from using tobacco products.

Broadly speaking, flavors are added to tobacco products to increase palatability and decrease harshness, which makes these products more appealing to youth and young adults.[9] Flavors can be classified as 1) characterizing, such as mint/menthol, strawberry, chocolate, coffee,

[*] Claims that e-cigarettes are "95% less harmful" are from a 2014 academic paper endorsed and publicized by Public Health England and the Royal College of Physicians. By the authors own admission, "A limitation of this study is the lack of hard evidence for the harms of most products on most of the criteria."[2] Since this study was published, evidence has emerged suggesting e-cigarettes are not safe, particularly for nicotine naïve users. E-cigarettes harm cells, users, and increase the risk of smoking. The long-term health effects of vaping are not yet known though. The "95% safer" estimate is unreliable information repeated so often that it has been accepted as fact.[3] Notably, one of the study funders, Lega Italiana Anti Fumo (LIAF), has previously worked with Philip Morris USA, and the Chief Scientific Advisor of LIAF was an author. They also previously consulted for Arbi Group Srl., an e-cigarette distributor.[4]

[†] One well executed study suggests e-cigarettes in combination with cognitive behavioral therapy can help smokers quit.[6] However, there is no high-quality clinical trial evidence to support the idea that e-cigarettes can help smokers quit without these added professional health care services.

etc.; and, 2) concept, such as “Jazz”, “Golden”, “Snap”, etc.

The Surgeon General Report on e-cigarettes previously concluded that flavors are among the most commonly cited reasons for using e-cigarettes among youth and young adults.[10] With over 7700 flavors and 460 brands being available on the e-cigarette market alone, flavors play a significant role in making these products appealing to youth, especially first-time users.[11] In fact, a systematic review of the literature found flavored e-cigarettes increase willingness to try and initiation of e-cigarette use,[12] and a 2016-17 study found that 96% of youth who had initiated e-cigarette use started with a flavored product.[13] For adult users of e-cigarettes, flavored e-cigarettes are also a primary reason for use; however, the role of flavors in helping smokers quit cigarettes remains uncertain.[12]

The FDA’s latest move to stop the sale of flavored pods and cartridges is unlikely to be sufficient in preventing youth use. The move applies to a limited number of manufacturers and may not prevent companies, like JUUL, from manufacturing refillable pods with the flavored e-liquids sold separately. Moreover, refillable pods for JUUL are already available through other manufacturers.

The FDA’s plan also allows menthol flavored pods to remain on the market and does not address menthol-flavored combustible cigarettes. Menthol flavoring, in particular, masks the harshness of smoking[14] and is associated with increased smoking initiation,[15] and higher likelihood of addiction.[16] The tobacco industry has targeted youth and minority populations with menthol cigarette advertising, and menthol cigarettes are disproportionately smoked by vulnerable populations such as African Americans, who have the highest rates of use compared to other racial and ethnic groups.[17]

Comprehensive flavor bans and restrictions[‡] are an increasingly popular means of combating youth vaping. Massachusetts became the first state to pass a bill restricting use of flavors in November 2019. Other jurisdictions, including San Francisco, Minneapolis/St. Paul, and Boston have previously passed such policies. Less comprehensive flavor bans and restrictions have been implemented in Rhode Island and Washington,[§] which have temporarily banned the sale of flavored e-cigarettes, and in Maine, which banned the sale of flavored non-premium cigars. Local restrictions have been approved in over 250 localities.[18]

PUBLIC SUPPORT

Comprehensive flavored tobacco product bans or restrictions are a relatively new phenomenon thereby limiting the available public support data on flavor bans or restrictions to specific tobacco products.

For e-cigarettes, the latest data indicate the majority of U.S. adults support a flavor ban. A USA Today/Ipsos survey conducted September 25-26th, 2019 indicated 52% of U.S. adults are in favor of a ban, with 72% of those over age 55 and one in five current e-cigarette users supporting the move.[19] During 2018, a separate survey found public support for an e-cigarette flavor ban among parents of middle- and high school students was 75%.[20]

Recent data on support for a menthol cigarette ban or restriction is limited. Data that exist are mixed and vary by smoking status, race/ethnicity, education, gender, and age.[21,22] In 2009, a public opinion survey of U.S. adults indicated 56%

[‡] Comprehensive flavor bans and restrictions are defined in this report as policies that ban or restrict the use of flavors for multiple tobacco products. For example, a policy that bans all flavors and exempts menthol is still considered comprehensive assuming it applies to multiple products.

[§] Michigan, Montana, New York, Oregon, and Utah are attempting to implement similar policies, pending legal challenges.

supported a menthol cigarette ban,[23] with a 2012 survey in two metropolitan areas indicating similar support (60%).[24] More recently, a 2014-15 survey found that 33% of U.S. adults support a menthol ban, whereas 62% did not support one. One possible explanation for this divergence is that the latter survey did not remind participants about the 2009 flavored cigarette ban or indicate that a scientific panel told the FDA that removing menthol cigarettes would reduce the number of people who start smoking.[22] Support for a menthol cigarette ban also appears to be higher among never and former smokers, non-whites (including African Americans), the less educated, females, and older adults.[22-25]

Public support data on little cigars and cigarillos are limited to a single study from 2014-15, which found 56% of U.S. adults supported banning candy and fruit flavors. Nearly 40% did not support this policy, with 4% indicating they did not know.[22] Data regarding flavor bans or restrictions of other tobacco products were not identified as part of our literature search.

PUBLIC HEALTH IMPACT

A comprehensive flavor ban or restriction may impact two key groups: 1) youth and young adults and 2) adults who smoke and vape. For youth and young adults, it has been argued that these policies will reduce smoking and vaping via reduced attractiveness and less palatable products. Others have stated that these policies or particular provisions may encourage adults who vape to switch to cigarettes, which would be an unintended consequence to the extent one can argue e-cigarettes may be less harmful than cigarettes. Policies that include exemptions to particular flavors, such as menthol/mint, or to particular products, such as cigars, risk losing their effectiveness (e.g., youth e-cigarette users may switch to menthol flavor only) or risk funneling current users to exempted products (e.g., adult e-cigarette users may switch to cigars). The literature modeling or evaluating comprehensive flavor bans or restrictions is limited; however, there are additional modeling studies suggestive of what might occur for product-specific bans or restrictions on e-cigarettes, menthol cigarettes, and cigars.

Comprehensive Flavored Tobacco Product Ban or Restriction

In 2010, New York City restricted sales of flavored cigars, cigarillos, little cigars, chew, snuff, snus, tobacco, pipe tobacco, roll-your-own tobacco, and dissolvables, excluding menthol. Evaluation data suggest sales of all flavored tobacco products declined by 87%, with sales of flavored cigars decreasing by 86% and flavored pipe and roll-your-own cigarettes decreasing by 91%. As compared to 2010, teens in New York City during 2013 had 37% lower odds of ever trying flavored tobacco products and 28% lower odds of using any type of tobacco product. Sales of non-flavored tobacco products did not significantly increase, but product-specific sales of non-flavored cigars and pipe and roll-your-own increased by 5% and 4%, respectively. These increases in non-flavored product-specific sales may have been due to the restriction; however, they also came during a period of increasing national cigar sales. It should be noted that the New York City restriction did not cover e-cigarettes and therefore they were not included as part of the study's results.[26] Another study of discarded cigar packages in New York City following the comprehensive restriction, found 19% of the discarded packages were products with characterizing flavors and 9% were products with concept flavors. Concept flavoring in cigars along with the availability of flavored products from neighboring jurisdictions remain a challenge for New York City.[27]

In 2013, Providence, Rhode Island restricted the sale of all non-cigarette tobacco products with characterizing flavors and included an exemption for menthol. An assessment of the impact of the policy found a 51% decrease in flavored cigar sales after policy implementation compared to a 10% sales increase in other areas within the state that had no such policy.

However, 93% of the sales reduction in Providence was due to a decrease in sales of cigars with characterizing flavors; sales of concept flavored cigars actually increased by 74%.[28]

A separate discrete choice study presented adult smokers and recent quitters with a number of products and asked which product they would choose. By restricting certain product choices, these data were then modeled to examine the potential impact of a comprehensive flavor ban. They found a comprehensive flavor ban might reduce 'choice' of any tobacco product by 5% while simultaneously decreasing e-cigarette 'choice' by 8% and increasing cigarette 'choice' by 3%.[29] This particular study did not model how such a policy would impact youth and young adults.

E-cigarette Flavor Ban or Restriction

A study predicting the impact of an e-cigarette flavor restriction suggests a product-specific restriction may reduce selection of e-cigarettes by 20% among younger adult smokers and have no functional impact on older adult smokers. Irrespective of interest in quitting cigarettes, decreasing flavor availability might decrease choice of e-cigarettes.[30] Another study from 2015 asked youth and young adults from Texas who use flavored e-cigarettes if they would continue using their product of choice if it were not flavored. With the caveat that these data predate JUUL and other pod-based e-cigarettes, they found 66% of those 25-29 years of age, 74% of those 18-24 years of age, 74% of those in high school, and 93% of those in middle school would not use their e-cigarette anymore.[31] In addition, researchers found that a policy that prohibits flavors in e-cigarettes and permits menthol cigarettes may drive adult smokers and former smokers to products known to cause significant long-term harm. In fact, such a policy may decrease selection of e-cigarettes by 11% and increase selection of cigarettes by 8.3%.[29]

These data suggest an e-cigarette flavor ban or restriction may reduce e-cigarette use among adults and youth, with larger reductions for younger users. One possible unintended consequence is an uptick in cigarette use among adults,[**] but a comprehensive flavor ban may prevent or mitigate such a consequence.

Menthol Cigarette Ban or Restriction

In 2017, the province of Ontario, Canada implemented a menthol ban on all tobacco products, including cigarettes. Evaluation data of the Ontario policy is the best evidence to-date regarding the potential impact of a menthol cigarette ban in the U.S. Given policies restricting the sale of menthol cigarettes have only recently begun being implemented in the U.S., there is limited research on their observable public health impact. However, researchers have used modeling and surveys to project their impact.

To evaluate the policy in Ontario, researchers compared menthol smokers planned behavior before the ban to their actual behavior one month following the ban. Before the ban, 15% said they would quit, 60% of smokers said they would switch to nonmenthol cigarettes, and 6% said they would use other flavored tobacco or e-cigarette products. One month following the ban, 29% had attempted to quit smoking, only 28% of respondents had switched to smoking nonmenthol cigarettes, and 29% reported using other flavored tobacco or e-cigarette products.[32] One year following the ban, 63% of daily and 62% of occasional menthol smokers reported having made a quit attempt versus 43% of non-menthol smokers who were not directly impacted by the policy. Furthermore, 24% of daily and 20% of occasional menthol smokers quit smoking versus 14% of non-menthol smokers.[33] These data are reinforced by another study that found the ban

[**] No data on youth were found as part of our literature search.

in Ontario was also associated with a significant reduction in menthol cigarette sales and total cigarette sales.[34]

In the U.S., several surveys have asked menthol smokers about their planned behavior should a hypothetical menthol cigarette ban be implemented, and they have consistently found even more encouraging pre-implementation results as compared to findings from Ontario. In one longitudinal study using data from 2011 – 2016, 24% of young adult smokers said they would quit menthol cigarettes. This response did not vary greatly across time and African Americans, females, and those with less than a high school education were more likely to report the intention to quit smoking. However, there was a significant increase in respondents who said they would switch to another tobacco product if menthol cigarettes were no longer available, from 7% in 2011 to 13% in 2016.[35] Of the cross-sectional surveys predicting the impact of a menthol cigarette ban, a 2010 study with adolescent and adult smokers found that 35% of menthol smokers reported that they would quit smoking and 25% reported that they "would find a way to buy a menthol brand".[36] In a 2011 study of young adults, ages 18 – 34, 66% of menthol cigarette smokers reported the intention to quit smoking, 18% of respondents reported that they would switch to non-menthol cigarettes, and 16% said they would switch to some other tobacco product. Intention to quit was most prevalent among African American menthol smokers (79%) and intention to switch to some other tobacco product was more prevalent among menthol smokers who also reported currently using another tobacco product (35%).[37]

To examine the impact a menthol cigarette ban may have on future smoking prevalence and tobacco caused deaths in the U.S, another study used simulation modeling. Under different scenarios assuming that 10%, 20%, or 30% of smokers would quit in the event of a menthol cigarette ban, researchers found that overall smoking prevalence would decrease by 4 – 10% (9% – 25% among African Americans) and between 323,000 and 633,000 deaths would be avoided in the United States over a 40 year period (2011 – 2050), with almost one third of lives saved being African American.[38]

Finally, some research has examined the effect of other tobacco control policies on menthol cigarette use. One study using Nielsen Homescan Data, a dataset where a national panel of households scan their cigarette purchases, explored the impact of taxes and public smoking restrictions on menthol cigarette smoking and found that neither higher prices nor public smoking restrictions increase the likelihood of quitting among menthol smokers.[39]

Notably, much of the menthol cigarette policy research found in our literature search was conducted prior to the rise of e-cigarettes in the United States and before JUUL went to market. While there is still a gap in the literature with regard to the number of US consumers who might switch to menthol e-cigarettes in light of a ban on combustible menthol cigarettes and with regard to the consumer response to a ban on all menthol tobacco products, it is clear that bans on menthol cigarettes would result in higher rates of quitting among smokers, particularly African American smokers in the United States who are disproportionately affected by menthol cigarettes. Furthermore, the evidence shows that existing tobacco control policies, such as increased tobacco taxes and public smoking restrictions, are not sufficient in reducing menthol cigarette use.

Cigar Flavor Ban or Restriction

The Population Assessment of Tobacco and Health Study, a national longitudinal study of tobacco use, was used to model the potential public health benefits of a hypothetical national ban of flavored cigars by extending the known benefits of local and state policies to the nation. The authors indicate a national law equaling the net effectiveness of the local and state policies would prevent 15% of premature deaths from exclusive and regular cigar smoking and reduce

the number of current cigar smokers within each cohort of 18 year old adults by approximately 112,000.[40] Their model did not take into account mortality rates among dual users suggesting the benefits might be underreported.

BUSINESS AND LABOR MARKET IMPACT

Policymakers have an interest in understanding the fiscal and labor market impacts of regulations on flavored tobacco products. Here we provide economic arguments examining the extent to which banning or restricting tobacco flavors may impact tobacco retailer sales and downstream effects on businesses and employment.

When compliance is high, a comprehensive flavor ban or restriction without exemptions is likely to significantly affect sales of flavored tobacco products. As previously mentioned, in New York City after a flavor restriction was implemented, [††] sales on all flavored tobacco products declined by 87%.[26] A concern for policymakers is whether a decline of such a magnitude would affect businesses and the labor market in a significant way. Economic research indicates that the impact of a ban on flavored tobacco products would be relatively narrow, for three reasons: 1. Most retailers selling flavored tobacco products do not rely on these products as their only or primary source of their revenue, 2. Consumers are likely to spend money originally intended for a banned tobacco product on other purchases, including tobacco products and other goods and services, and 3. Labor and other resources not used in the supply and sale of a banned product tend to be redirected to other uses.[41]

An enduring feature of the tobacco retailer environment is that the majority of tobacco sellers do not specialize in the sale of tobacco products. In 2012, convenience stores (including those linked to gas stations), supermarkets and pharmacies accounted for 80% of locations where tobacco is sold.[42] At the retailer level, regulations that affect particular classes of products result in changes in the composition of what is sold. For example, when retailers in Boston, MA were asked what was done with shelf-space after their policy was implemented, over 70% indicated they replaced the flavored products with non-flavored tobacco products, 13% with non-tobacco products, 7% with no additional products, and the remaining retailers cited something else or that they did not know.[43] These data suggest the vast majority of tobacco retailers can adapt and thereby significantly mitigate risk of business closures and reduced employment.

The e-cigarette retail sector is relatively new, with low barriers to entry – by some estimates, setting up a vape shop can involve an investment of as little as $25,000.[44] Business expansion and closure are also common phenomena in the retail sector. In Maryland, for example, of the 117 businesses with the word “vape” in their business name in January 2020, 58 were active, while the rest were not. In fact, the inactive businesses were typically forfeited (43 of 117 businesses) or dissolved, suggesting that vape shops close or consolidate as a matter of course.[45]

It is plausible that adult-only vape shops will be significantly more impacted by a flavor ban or restriction given the breadth of flavored e-liquids each sells and the amount of shelf-space that will need to be replaced. With the data currently available, it is challenging to predict the exact impact a ban or restriction may have on vape shop closures and employment. Nevertheless, we modeled varying degrees of impact such a policy may have on vape shop closures and employment in Maryland. As of January 2020, there were 124 verified and 284 unverified e-cigarette retailers in the state, and 90 percent of

[††] Again, e-cigarettes were not included in New York City’s flavor restriction and therefore not included in the data.

those employed fewer than 5 employees.[46] Based on these data, the average number of employees [‡‡] in verified e-cigarette retailer stores was 378 and in unverified e-cigarette retailer stores was 715. Under scenarios in which 100%, 50%, and 25% of these businesses close due to a ban or restriction, approximately 1,093, 547, and 274 employees would face the prospect of job separation, respectively. By way of comparison, Maryland's employment in the retail sector was approximately 270,000 workers in 2018.[47]

An important consideration is that a ban or restriction on flavored tobacco products is not a ban on all electronic cigarettes. Assuming existing specialized retailers modify their product offerings to drop flavored products and add other products, there may be little to no impact on the number of these businesses and the people they employ. A related concern in the event of job separation in any specialized sub-industry is the ease with which workers are absorbed into other jobs. Labor economists rely on 1) an understanding of job requirements and 2) the availability of similar jobs to understand the ease with which one group of workers might find alternative livelihood opportunities in the event of an industry-specific change. With respect to job requirements, frontline retail jobs tend to be relatively low in the intensity of human capital requirements for training and retraining—by some estimates 72% of frontline retail workers receive less than 20 hours of training.[48] Employment in most categories of retail jobs in the state of Maryland are predicted to grow at over 1.5% between 2018 and 2020.[49] Within the context of continued declines in overall unemployment in the state, these point to both the availability of comparable jobs and relative ease with which the small group of potentially displaced retail workers might be absorbed in those comparable jobs and sectors.[50,51]

COMPLIANCE

Compliance studies from several of the early adopters can serve as an early barometer for a policy's ability to succeed. Here we explore findings and lessons learned from Boston, Massachusetts, other Massachusetts communities, St. Paul/Minneapolis, Minnesota, and Chicago, Illinois.

In 2016, the city of Boston, Massachusetts implemented a policy restricting the sale of flavored tobacco products, including cigars, smokeless tobacco, and e-cigarettes, to adult-only retailers. A Guidance List was provided to retailers in order to better delineate what is a flavored versus non-flavored product, and the list is periodically updated to reflect additional products, with adequate time given to retailers to comply with the updates to the list. A pre-/post- study design was used to evaluate retailer compliance with this law. Baseline data collected prior to implementation of the policy indicate 89% of the retailers surveyed were selling flavored products (average of 19.5 unique flavored tobacco products were available for sale). At the follow-up stage, 8-months after the policy went into effect, 14% of the retailers were selling flavored tobacco products (average of 0.4 unique flavored tobacco products were available for sale). Approximately 86% and 62% of retailers reported that educational visits and the Guidance List were the most helpful in achieving compliance, respectively. In total, the researchers found that 51 retailers were not compliant after the policy effective date; 73% of these did not know a product was in violation of the policy. When the non-compliant retailers were asked about the challenges, 36% indicated

[‡‡] ReferenceUSA data categorizes establishments by employee size. The mid-points of these categories (1-4, 5-9 and 10-19) were used to estimate the average number of employees. Upper bounds for the number of employees in verified and unverified stores is 576, and 1141 respectively.[46]

that distributors would not take back the flavored product supply, 34% did not know which products they were allowed to sell, and 30% reported not having enough time to sell down their supply.[43]

Between 2015 and 2017, several other Massachusetts communities implemented flavored tobacco product restrictions allowing researchers to evaluate additional jurisdictions. The researchers found 6 months to 1 year post-implementation that 21 of the 38 communities with a restriction achieved 100% compliance. While 11 of the communities had non-compliant retailers, [§§] only 12% of retailers in those communities were not in compliance. Among those not in compliance, retailers cited uncertainty as to whether particular products, particularly concept flavors, were on the Guidance List.[52]

In order to reduce youth access to flavored tobacco products, Minneapolis and St. Paul, Minnesota restricted the sale of flavored tobacco to adult-only tobacco product shops in 2016. Their policies applied to all tobacco products, including e-cigarettes, and exempted menthol. An observational study was conducted pre- and post- policy implementation at retail stores. In both cities, significantly fewer stores sold flavored tobacco after the policy went into effect; in Minneapolis the number of stores selling flavored tobacco dropped from 85% to 39% and in St. Paul from 97% to 8%.[53] While the sample sizes were small, these data were similar to those found in Boston and other Massachusetts communities.

In 2017, Minneapolis City Council closed their menthol flavored tobacco product exemption but allowed the products to be sold in adult-only tobacco product shops and liquor stores. At the time the ordinance was passed, there were 342 outlets selling menthol tobacco (317 convenience stores, gas stations, and liquor stores and 25 tobacco product shops) and the shops were given a year before the policy was implemented. In anticipation of fewer sales or because of them, 24 convenience store owners applied for licenses to establish new adult-only tobacco product shops. Some store owners split their existing stores into two stores: an adult-only tobacco product shop and a convenience store. Other owners simply converted their store into adult-only tobacco product shops. Many additional owners had inquired about applying for these licenses before the city passed a moratorium on the establishment of new tobacco product shops in August 2018 in order to study the issue.[54,55] In July 2019, to combat the licensure loophole, the city passed a requirement that there must be 2000 feet between any two adult-only tobacco product shops.[***] The requirement is theorized to work, in part, by minimizing the number of new and existing retailers who can apply for licenses.[†††] As of August 2019, there were 52 exclusive tobacco product shops in Minneapolis, up from 25 shops in 2017 (108% increase). Assuming the buffer zone provision is effective, this trend should slow or reverse with time. Beyond these 24 convenience store owners, the policy has been relatively effective at reducing the total number of retailers authorized to sell menthol flavored tobacco products, with the number decreasing by 76% since 2017.[54]

Finally, a research team examined compliance with a menthol cigarette restriction in Chicago, Illinois, which banned menthol cigarette sales within 500 feet of schools starting in 2016. Compliance of relevant retailers was 57%, with gas stations complying less with the ban as compared to larger/chain stores. The authors concluded that a partial menthol ban (i.e. near schools) results in poor compliance.[20]

[§§] The remaining 6 communities did not have data collected.

[***] Existing shops with licenses to sell exclusively tobacco products were grandfathered in.

[†††] It may also increase the direct cost (i.e., purchase price of cigarettes) and indirect cost (i.e., travel costs and opportunity cost of time not doing other things) by 10% for menthol smokers and 9% for African American menthol smokers thereby reducing access to menthol tobacco products.[56]

Compliance data from Boston, St.Paul/Minneapolis, and other Massachusetts communities suggest that high compliance can be achieved. However, the challenges in Minneapolis demonstrate that adult-only store exemptions can threaten the public health benefits of such a policy and should be avoided. If such a provision is unavoidable, including a sizeable buffer zone between retailers and/or a cap on the total number of retailers[‡‡‡] may, in theory, mitigate unintended consequences. In addition, concept flavors represent a unique challenge to retailer compliance, but this can be mitigated by issuing a Guidance List and implementing a robust education program. Data from Chicago forewarn that partial bans may be difficult to implement and therefore unlikely to be successful.

SUMMARY AND POLICY RECOMMENDATIONS

Flavored tobacco bans or restrictions are a relatively new phenomenon. Even so, the latest public opinion polls indicate the majority of Americans support these policies, and both predictive and evaluation studies, including compliance studies, suggest that under the right conditions comprehensive flavor bans or restrictions have the ability to reduce tobacco use and save lives. Furthermore, a comprehensive ban or restriction is unlikely to adversely impact the retail economy in Maryland. Relative to other retailers, it is plausible that vape shops that do not diversify product offerings may be more negatively affected by the policy; however, there are not enough publicly available data to accurately predict the magnitude of the impact on their businesses and labor market.

Policymakers should consider lessons learned from previous flavor ban or restriction attempts. Based on the available evidence we make the following recommendations:

1. The FDA's flavored cigarette ban had the unintended consequence of pushing users to other flavored products. Minneapolis' restriction had an adult-only store exemption that threatened to undermine the intended public health benefits. Chicago's partial menthol ban was too difficult to implement and enforce. In Massachusetts communities, retailers were selling concept flavored tobacco products. These four examples suggest limited product and flavor bans, partial bans, and adult-only retailer restrictions have negative public health consequences and create loopholes that are likely to be exploited by industry. A comprehensive flavor ban without product, flavor, and retailer exemptions may maximize public health benefits and minimize the opportunity for unintended consequences.

2. To ensure maximal benefit now and in the future, policymakers should consider providing the Maryland Department of Health with the resources needed for a robust retailer education campaign and provide the Department of Health with the flexibility to include all characterizing and concept flavored tobacco products on a Guidance List that can be periodically updated.

[‡‡‡] St. Paul, MN has a cap on the number of adult-only tobacco product shops allowed.

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