Abstract

Purpose. Water pipe tobacco smoking (WTS) is growing in popularity among U.S. young adults and is associated with health risks similar to those of cigarette smoking. The purpose of this study is to examine existing tobacco control policies (TCPs) in order to investigate how they engage WTS.

Approach. A systematic synthesis of content and legal interactions among federal, state, and local TCP documents.

Setting. Pennsylvania, which represents a politically and demographically diverse microcosm of the United States.

Participants. No human subjects.

Method. Federal and state TCPs were retrieved via public legal repositories. Local policy searches were conducted via county/municipal Web sites, inclusive of 13 localities that had autonomous health departments or existing TCPs based on a National Cancer Institute report. Full-text TCPs were double coded within a grounded theory framework for health policy analysis. Emergent codes were used to compare and contrast policy texts and to examine legal interactions among TCPs.

Results. Examination of policy categories including youth access, use restrictions, and taxation revealed WTS as largely omitted from current TCPs. WTS was sometimes addressed as an “other” tobacco product under older TCPs, though ambiguities in language led to questionable enforceability. State preemptions have rolled back or prevented well-tailored reforms at the local level. Federal preemptions have likewise constrained state TCPs.

Conclusion. Outdated, preempted, and unclear policies limit the extent to which TCPs engage WTS. Health advocates might target these aspects of TCP reform.

Key Words: Tobacco, Water Pipe Smoking, Hookah Smoking, Policy, Qualitative Research, Prevention Research. Manuscript format: research; Research purpose: descriptive; Study design: qualitative; Outcome measure: other financial/economic; Setting: state/national; Health focus: smoking control; Strategy: policy; Target population age: adults; Target population circumstances: geographic location

PURPOSE

A water pipe or “hookah” typically consists of a metal head into which tobacco and lighted charcoal are placed, a glass body that is partially filled with water for the smoke to bubble through, and a flexible hose to puff and inhale smoke emanating from the apparatus. Although the smoke is cooled by the water to make it less harsh, this process filters out as little as 3% of toxicants such as heavy metals. Studies have associated water pipe tobacco smoking (WTS) with increased risk of cancer, cardiovascular disease, pulmonary issues, and nicotine dependence. Secondhand smoke exposure is also a concern, especially in establishments dedicated to WTS—also referred to as hookah bars, hookah lounges, or hookah cafés—which have been gaining popularity in the United States. For example, these establishments have been found to have significantly higher concentrations of carbon monoxide as compared to establishments where cigarettes are smoked. As rates of cigarette smoking in the United States decline, WTS is an emerging trend. WTS is popular...
among young people, with about 30% of college students having ever used and 10% having used in the past 30 days, making it nearly as common as cigarette use in this population.\textsuperscript{5,9} WTS is also prevalent in noncollege populations, and across gender, age, race, geographic location, and socioeconomic status.\textsuperscript{8,10,11} Increased prevalence of WTS is now considered a “global epidemic” (stemming from popularity in Middle Eastern cultures to a sharp uptake among Westernized cultures), with global tobacco control policy (TCP) interventions demonstrating varying degrees of effectiveness in slowing the proliferation of WTS.\textsuperscript{1,12} Tobacco companies have played an influential role in the policy landscape by negotiating weak regulations, promoting the preemption of locally tailored TCPs (as opposed to setting flexible, minimum standards), and pursuing international trade agreements that may serve to circumvent federal regulations.\textsuperscript{13,14} The use of these tactics is widespread in the Americas, as demonstrated in Argentina, Mexico, and the United States.\textsuperscript{14–16}

Even as policy interventions such as clean indoor air restrictions or increased excise taxes have demonstrated effectiveness in reducing cigarette use, many have not as effectively addressed WTS.\textsuperscript{17–22} For example, more than 90% of U.S. cities with policies banning cigarette smoking in bars may allow WTS establishments via exemptions, encouraging their proliferation within niche tobacco markets.\textsuperscript{23,24} Further, selectively regulating cigarettes may encourage a substitution effect where smokers migrate to less-expensive alternatives such as WTS.\textsuperscript{22,25} Although a recent qualitative investigation of WTS policy in the United Kingdom has provided new insights about policymakers’ understandings of WTS regulation,\textsuperscript{26} additional research is needed in order to contextualize the policy discussion in the United States and elsewhere.\textsuperscript{2,18–22} We attempt to bridge this gap by providing an in-depth synthesis of current WTS policies at the federal, state, and local levels within the state of Pennsylvania.

Since 1979, Pennsylvania’s policy-making environment with respect to tobacco regulation has been active and multifaceted, including substantial involvement by the tobacco industry as well as conflicting interpretations of state policy among local jurisdictions.\textsuperscript{27,28} However, there has been a substantial decrease in the introduction of tobacco-related bills by state legislative session since 2002,\textsuperscript{29} making this an opportune time to examine the active TCPs in Pennsylvania. Although Pennsylvania ranks above the median of states with respect to cigarette excise taxes, it remains the only U.S. state that does not tax smokeless tobacco, full-sized cigars, or pipe tobacco.\textsuperscript{30,31} Furthermore, it is 1 of only 13 states maintaining a state law preempting local clean indoor air regulations.\textsuperscript{28} Pennsylvania is also one of the most politically diverse states in the nation, with a balance of urban, suburban, and rural communities.\textsuperscript{32} Therefore, Pennsylvania is a valuable laboratory in which to closely examine TCPs addressing WTS.

The purpose of this study is to examine existing TCPs in order to investigate how they engage WTS. We also aim to capture interactions among federal, state, and local regulations, and to examine multiple categories of TCPs, including use restrictions, price, youth access, labeling, and flavoring. As there is little extant research to guide theoretical development of WTS policy analysis, we utilized a grounded theory approach to identify emergent categories and synthesize understandings of textual content from TCPs.

**APPROACH**

Systematic searches of legal repositories and government Web sites yielded full-text TCPs at the federal, state, and local levels. Textual analysis, within a grounded theory framework, was used to synthesize understandings of how these TCPs engage WTS. This approach serves to provide a theoretical framework and more nuanced understanding for engaging TCP research and reform.

**SETTING**

Data were collected in relation to Pennsylvania, which represents a politically and demographically diverse microcosm of the United States.

**PARTICIPANTS**

This study involved no human subjects.

**METHOD**

**Data Collection**

Primary searchers for policy texts were conducted in April through July of 2013. Inclusion criteria for policy texts included (1) applicability to Pennsylvania (excluding state or local policies from outside Pennsylvania), (2) applicability to tobacco control (relates to tobacco or smoking), and (3) including only the newest version if multiple versions of the same text were identified. Searches were consistently framed using the key terms tobacco, smoking, hookah, and waterpipe. To elicit policies at the federal and state levels, we first searched in four repositories:

- The U.S. Code (http://uscode.house.gov/)
- Food and Drug Administration (FDA) archives (http://www.fda.gov/RegulatoryInformation/Legislation/)
- Pennsylvania General Assembly’s searchable database of statutes (http://www.legis.state.pa.us/)

For local policies, we conducted a purposeful search via Google (http://www.google.com), focused on counties and municipalities likely to have TCPs in place. Particular localities were targeted if (1) they had an active county/municipal health department as outlined by Pennsylvania’s Local Health Administration Law, Act 315 of 1951, which encouraged the adoption of locally tailored health advocacy programs, or (2) they were known to have local TCPs according to a previous tobacco policy analysis completed by the National Cancer Institute.\textsuperscript{33} In addition to the WTS-related search terms, we narrowed the search by including (1) the particular locality name and (2) any of the terms law, regulation, ordinance, or code to obtain policy-relevant results. The first two
pages of search results were reviewed for links to official local government Web sites, repositories of local policies, or mentions of specific policies. We also examined within retrieved documents for mentions of related policies at federal, state, and local levels.

Searches resulted in disparate sections of relevant text within larger policy compendiums. For example, the U.S. Tax Code might be considered as one long text, or specific subsections referring to tobacco excise taxes may be considered as individual texts. Additionally, multiple versions of policy texts were sometimes retrieved. This presents difficulties in using gold standard systematic review processes (e.g., Cochrane Review), which can present helpful metrics such as how many unique texts were excluded from analysis. In lieu of discrete document counts, the resulting texts are summarized in the Summary of Policy Documents section.

**Analysis Strategies**

Because of the complexity of these texts and scarcity of existing WTS policy research in the United States, we approached coding within a grounded theory framework. This approach utilized a bottom-up process in which coders developed increasingly structured coding frameworks from emergent themes within the data, resulting in an integrated understanding of various conceptual parts.

Within an *open coding* framework, coders (J.B.C., J.N.T.) first examined the policy documents, highlighted salient text, and recorded memos to track individual perspectives, questions, and comments throughout the textual data. Using a constant comparison approach, coders then examined relationships among observations within texts and emergent coding frameworks. Coders approached the textual content literally while also considering the historic context of the policies under investigation. For example, the term *pipe* in older policy texts may not have been conceptualized with water pipes in mind, so interpretations of this term may vary. Thus, we considered both strict interpretations (the letter of the law) and broader interpretation (the spirit of the law). Coders noted cases where integral terms such as *pipe or smoking* were not formally defined. Points of divergence between strict and broader interpretations and omissions of definitions signaled policy aspects that required more in-depth discussion among the research team.

Ongoing discussions of emergent findings among coders and meetings with supervising health policy researchers (B.A.P., A.E.J.) facilitated consensus on cross-cutting, axial codes. Examples at this level of coding included concepts such as what specific types of tobacco products, restrictions, or penalties were mentioned within policy texts. This resulted in an emergent framework that led toward defining broader codes used in selective coding and defining the overarching core category, which frames an overall understanding of the data. Using this approach, the research team moved toward a unifying coding framework, focusing on three primary categories: policy domain, policy status, and applicability to WTS (the core category).

We assessed policy domain by asking, “What area of tobacco use does this policy affect?” (i.e., youth access, use restriction, price/taxation). The broad categories for this code emerged from more-nuanced axial codes that related to specific focus of individual texts (e.g., vending machines, point-of-sale signage; see Table 1). Policy status was conceptualized with the question, “In

<table>
<thead>
<tr>
<th>Locale</th>
<th>Focus (Code or Ordinance No.), Year</th>
<th>Status</th>
<th>Applicability to WTS*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allentown</td>
<td>Vending machines (ordinances, article 1160), 1990</td>
<td>Active</td>
<td>W</td>
</tr>
<tr>
<td>Bethlehem</td>
<td>Vending machines (ordinances, article 1119), 1990</td>
<td>Active</td>
<td>P</td>
</tr>
<tr>
<td>Erie County</td>
<td>Vending machines (local law No. 4), 1997</td>
<td>Active</td>
<td>O</td>
</tr>
<tr>
<td>Lower Merion</td>
<td>Vending machines (code 90-11.1–90-11.3), 1991</td>
<td>Active</td>
<td>NT</td>
</tr>
<tr>
<td>Montgomery County</td>
<td>Vending machines (public health code, 2-1–2-2), 2012</td>
<td>Preempted</td>
<td>X</td>
</tr>
<tr>
<td>Philadelphia County</td>
<td>Vending machines (Philadelphia Code 9-2100), 1998</td>
<td>Active</td>
<td>X</td>
</tr>
<tr>
<td>Pittsburgh</td>
<td>Vending machines (local law No. 4), 1997</td>
<td>Active</td>
<td>X</td>
</tr>
<tr>
<td>State College</td>
<td>Clean indoor air (ordinance 1185, section 8), 1987</td>
<td>Preempted</td>
<td>X</td>
</tr>
<tr>
<td>York</td>
<td>Clean indoor air (code 90-44–90-49.2), 1987</td>
<td>Repealed</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Point-of-sale signage (Philadelphia Code 10-602), 2006</td>
<td>Active</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Tobacco product tax (Philadelphia Code 19-3700), 2013</td>
<td>Active</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Tobacco retailer permit (Philadelphia Code 9-631), 2011</td>
<td>Unclear</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Park conduct (741.02), 2008</td>
<td>Preempted</td>
<td>X</td>
</tr>
</tbody>
</table>

* WTS indicates water pipe tobacco smoking; W, water pipe or hookah (explicit); P, pipe (implicit); O, “other” product (general); and NT, nontobacco products.
what manner is this policy currently in effect?” Information relevant to this category included how levels of policy interacted. Thus, it relied on axial coding of legal concepts such as preemptions and exemptions. Finally, applicability to WTS was used to determine how individual policies specifically approached the theme of WTS. This category relied on understandings of earlier categories, and included information describing to what extent (explicitly, implicitly, broadly/generally) the policies of interest were applicable to WTS. Additionally, this category included a code assessing whether nontobacco smoking products (tobacco alternatives that may be smoked in water pipes) were included in a given policy. Table 1 exemplifies how development of individual coding categories contributed toward the process of selective coding and to a clearer understanding of local policies’ applicability to WTS.

RESULTS
Summary of Policy Documents

Federal Policy. In 2009, the Family Smoking Prevention and Tobacco Control Act (FSPTCA) of 2009 amended the federal Food, Drug, and Cosmetic Act to provide the FDA additional control over the regulation of tobacco products. Current areas of FDA oversight include setting standards for the labeling of tobacco products, enforcing product safety testing, and setting minimum product standards (e.g., restricting additives and flavoring). Taxation of tobacco products is regulated under the Internal Revenue Code and enforced by the Alcohol and Tobacco Tax and Trade Bureau (TTB).

State Policy. The Pennsylvania Fiscal Code defines various terms that relate to the sale and taxation of cigarettes and “little cigars,” but does not apply to other forms of tobacco. With varying degrees of relevance to WTS, current state statutes account for policy modification made via Pennsylvania Act 112 of 2002 and the Pennsylvania Clean Indoor Air Act (CIAA) of 2008. Two preemption clauses were of particular relevance to our synthesis of TCP data. The first prevents the enforcement of local tobacco sale regulations, with an exemption for policies implemented before January 1, 2002. The CIAA enacted an additional preemption preventing localities from implementing TCPs regulating tobacco use in indoor public places, with an exception for Philadelphia.

Local Policy. Based on the selection criteria outlined in our methods, we focused on TCPs from six counties (Allegheny, Bucks, Chester, Erie, Montgomery, Philadelphia), and seven cities (Allentown, Bethlehem, Lower Merion, Pittsburgh, State College, Wilkes-Barre, York). One or more local TCPs were located for 9 of the 13 localities. This process resulted in 17 distinct sections of text, which were coded for policy focus (Table 1), then selectively grouped into broader categories of policy domain (reflected in the headings for the remainder of this Results section). Categorization by domain was integral to form understandings of the policy status variable, as preemption and interaction occur among layers of policy within distinct domains. This moved us toward more nuanced understandings of TCP applicability to WTS within domains, while also accounting for complexities in legal definitions and terminology (Table 2). Our results are presented as narratives within policy domains for clarity, with the overarching theoretical conclusions and implications presented thereafter.

Youth Access

Age Restrictions. At the federal level, FDA regulations set the minimum age to purchase cigarettes or smokeless tobacco at 18, and they set guidelines for checking photo identification for anyone appearing younger than 27. These regulations do not apply to water pipe tobacco. Pennsylvania more broadly regulates the transfer of “tobacco products” to minors, but does not regulate minors’ possession of tobacco products, except within school settings. State regulation preempts any local regulations “concerning the subject matter” of this law unless they were enacted before January 1, 2002. Philadelphia was found to have a preempted tobacco-sale regulation similar to the state regulation, and a related code regulating tobacco retailer permits when the tobacco-sale regulation is violated (Table 1). Although the permit code directly approached water pipe tobacco, its applicability is unclear because it is not clear whether retailer permits fall under the subject matter of the state’s preemption clause. See Table 2 for an excerpt demonstrating this policy aspect.

Nuisance Abatement. In York, there was an ordinance that ascribed “points” to a place of business if the relevant state law regarding sale of tobacco products to minors was violated. A place of business can be forced to close if too many nuisance points are ascribed to it. As this ordinance was implemented after the 2002 exemption cutoff, its enforceability with respect to tobacco sales relies on the interpretation of “subject matter” within the state’s preemption clause.

Vending Machines. Similar to age restrictions, federal regulations for vending machines provide guidance only for cigarettes and smokeless tobacco. However, Pennsylvania regulations define vending machines in such a way that other forms of tobacco products are covered. At the local level, seven regulations were found to apply to vending machine use. However, among the active regulations, only three of the policies defined vending machines in a way that would include water pipe tobacco. Thus, with respect to WTS, we have identified localities where lax vending regulations are still intact by virtue of meeting the dated 2002 exemption criteria. These inconsistencies in active local policies may allow water pipe tobacco or related paraphernalia to be vended with little or no oversight.

Point-of-Sale Signage. No current federal or state regulations were found to address signage present at tobacco-product points of sale. Two localities were found to have regulations requiring tobacco-product “retailers” to post conspicuous signage with standardized language stating that sale of tobacco products to minors is illegal (Table 1). Philadelphia and Montgomery County have similar regulations, though it is unclear how enforceable they are, as they were adopted after the 2002
exemption cutoff and may or may not fall under the Pennsylvania preemption of localized regulations on youth access. Clearly defining "tobacco retailers" is another area where precision in legal definitions may be important, as some WTS establishments may be considered restaurants, bars, or other service providers as opposed to tobacco retailers (i.e., consumers paying to smoke rather than purchasing tobacco itself).

**Use Restrictions**

**Clean Indoor Air.** Although the federal government does not maintain policy on where individuals are permitted to smoke, the state’s CIAA uniformly regulates "the carrying by a person of a lighted cigar, cigarette, pipe or other lighted smoking device" in indoor public places, with exceptions for drinking establishments, tobacco shops, cigar bars, private clubs, or gaming floors. Of these exempted categories, WTS establishments fit most closely into the categories of drinking establishments, tobacco

### Table 2

**Selected Excerpts from Relevant Policy Documents**

<table>
<thead>
<tr>
<th>Policy Domains and Selected Regulations</th>
<th>Relevant Quotations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Youth access</td>
<td></td>
</tr>
<tr>
<td>Sale of Tobacco, 18 Pa CS §6305</td>
<td><em>Tobacco product.</em> A cigarette, cigar, pipe tobacco or other smoking tobacco product or smokeless tobacco in any form, manufactured for the purpose of consumption by a purchaser, and any cigarette paper or product used for smoking tobacco.</td>
</tr>
<tr>
<td>Preemptions: Tobacco, 53 Pa CS 3 §301</td>
<td>…the provisions of 18 Pa.C.S. §6305 (relating to sale of tobacco) shall preempt and supersede any local ordinance or rule concerning the subject matter of 18 Pa.C.S. §6305…[except] local regulation enacted prior to January 1, 2002.</td>
</tr>
<tr>
<td>Tobacco Retailer Permit, Philadelphia Code 9-631</td>
<td><em>Tobacco product.</em> Any substance containing tobacco leaf, including without limitation cigarettes, cigars, pipe tobacco, hookah tobacco…or any other preparation of tobacco.</td>
</tr>
<tr>
<td>Use restrictions</td>
<td></td>
</tr>
<tr>
<td>Pennsylvania Clean Indoor Air Act (CIAA), Act of June 13, 2008, PL 182 No. 27 Cl 35</td>
<td><em>Smoking.</em> The carrying by a person of a lighted cigar, cigarette, pipe or other lighted smoking device.</td>
</tr>
<tr>
<td><strong>Clean Indoor Air Worker Protection Law,</strong> Philadelphia Code 10-602</td>
<td><em>Smoking.</em> Inhaling, exhaling, burning or carrying any lighted cigarette, cigar, pipe or other such device which contains tobacco or other smoke producing products.</td>
</tr>
<tr>
<td><strong>Tobacco and Tobacco-Related Products Tax,</strong> Philadelphia Code 19-3700</td>
<td><em>Specialty Tobacco Establishment.</em> A Food or Beverage Establishment whose on-site sales or rentals of tobacco, tobacco-related products and accessories for consumption or use on the premises comprises fifteen percent (15%) or more of gross sales on an annual basis.</td>
</tr>
<tr>
<td>Taxation</td>
<td></td>
</tr>
<tr>
<td>Internal Revenue Code, 26 USC 52 §5702</td>
<td><em>Tobacco products</em> means cigars, cigarettes, smokeless tobacco, pipe tobacco, and roll-your-own tobacco.</td>
</tr>
<tr>
<td><strong>Tobacco and Tobacco-Related Products Tax,</strong> Philadelphia Code 19-3700</td>
<td>The term <em>pipe tobacco</em> means any tobacco which, because of its appearance, type, packaging, or labeling, is suitable for use and likely to be offered to, or purchased by, consumers as tobacco to be smoked in a pipe.</td>
</tr>
</tbody>
</table>

**Tobacco and Tobacco-Related Products Tax,** Philadelphia Code 19-3700

**Tobacco and tobacco-related product.** A product containing tobacco for smoking or other consumption, including any cigarette, smokeless tobacco, pipe tobacco or other loose tobacco, but not including a cigarette or a little cigar; and rolling papers.
shops, or cigar bars depending on the types and quantities of food and drink that they sell (Table 2). Although the CIAA preempts all local regulation, an exemption for Philadelphia has allowed for its continued observance of the Clean Indoor Air Worker Protection Law. Although similar to CIAA with respect to allowing specific exemptions, the “cigar bar” exemption from CIAA is replaced by “specialty tobacco establishment,” which is similar in operational definition but with a more general title. This local policy differentiates itself from the CIAA by setting forth additional regulations that restrict the use of “fire-producing devices” (e.g., matches, lighters) and restricting smoking in outdoor areas that are adjacent to smoke-free areas. In comparison to the CIAA, the Philadelphia law defines “smoking” in a way that more clearly applies to WTS as well (Table 2). A preempted regulation was located for the town of State College, which provided clean indoor air exceptions only for “private functions, factories, warehouses, and similar places or work,” or on a per-case waiver. In addition to being more stringent than state regulations with respect to exceptions, its definition of smoking included “tobacco substitutes or tobacco-related products” verbiage, which was unique among reviewed texts. Lower Merion’s clean indoor air law, which also provided fewer exemptions than the current state law, was repealed in 2006, providing a window of time where indoor smoking could again proliferate until CIAA was passed in 2008.

Public Spaces. The city of York, unique among other localities that were reviewed, has passed a law banning the use of tobacco products on properties owned by the city or designated as public forums. This applies to WTS as “pipe or other smoking device” and regulates areas such as parks, playgrounds, swimming pools, monuments, community centers, lakes, and sanitation and maintenance staging areas. One park was exempted via a 2008 resolution, but more than 30 other areas remain smoke free.

Taxation

At the federal level, water pipe tobacco is taxable as “pipe tobacco” at $1.769 per ounce. This specific point is mentioned only in a congressional budget justification by the TTB and is not referenced on official excise tax forms or via the TTB Web site. Likewise, no specific reference to water pipe tobacco is included in the U.S. Internal Revenue Code (Table 2). Although tax compliance with respect to cigarettes and smokeless tobacco is explicitly monitored and enforced per the Prevent All Cigarette Trafficking Act of 2009, no equivalent process appears to be in place for water pipe tobacco. Pennsylvania levies excise taxes specifically on cigarettes and “little cigars,” and does not tax water pipe tobacco. At the local level, Philadelphia imposes additional excise taxes on water pipe tobacco as “all other tobacco and tobacco-related items,” amounting to $.36 per ounce. No other localities were found to impose tobacco excise taxes, though there were no apparent legal restrictions on doing so.

Other Regulations

The FSPTCA grants the FDA preeminent authority over monitoring the contents and labeling of all tobacco products. With this authority, the FDA banned many flavored cigarettes from the market but has not taken action to regulate the many more-exotic flavors of water pipe tobacco. In this realm, current FDA regulations preempt more progressive regulations that might affect water pipe tobacco at state or local levels. However, to date, the FDA has not begun to monitor or regulate either water pipe tobacco content or water pipe design characteristics.

CONCLUSION

Taken together, these results demonstrate the interplay among various aspects of current TCPs and inform a broader theoretical understanding that current TCPs may not apply well to WTS, though they can be made more applicable with particular policy considerations at the forefront. First, our study further reaffirmed the conclusions of recent research that WTS is not commonly addressed in TCPs. Second, among layers of TCPs, permissiveness combined with preemption currently limits the utility of localized policies that may apply to WTS. Finally, as TCPs are implemented and adapted to respond to emerging tobacco products or substitutes, it will be important to choose verbiage that accounts for unique aspects of WTS among other tobacco products.

Of key importance in the findings is that WTS is largely omitted from public policy and that current TCPs apply to WTS in varying degrees. This omission is exemplified through the Pennsylvania CIAA, where WTS establishments can conform to exemption standards set for alcohol establishments, tobacco shops, or cigar bars. However, for WTS establishments, it may be appropriate to define a specific exemption criterion setting a high minimum standard for air ventilation, because of the increased risk of carbon monoxide toxicity within these venues. Further, it is important to consider water pipe tobacco as a substance with unique properties (e.g., ignited with charcoal briquettes and not a flame, containing more additives by weight than traditional pipe tobacco), which warrants additional efforts by the FDA to monitor its safety and proper labeling practices. In addition, excise tax codes could account for the weight of tobacco versus additives in the final product and also consider the possibility of a substitution effect where tobacco users migrate to less expensive modes of nicotine administration.

With respect to interactions among federal, state, and local policies, preemption is of primary concern. The current model in Pennsylvania has demonstrated that preemption has the effect of lowering public health standards for localities such as State College, where more stringent clean indoor air policies had been in place. Additionally, preemption exemption criteria hinging on local regulations predating state regulations allow for the perseverance of policies that were enacted decades before the emergence of WTS. This is exemplified through the examined tobacco vending regulations that focus on “cigarette vending machines” and allow legal loopholes for novel forms of tobacco. Additionally, using terms such as “related” or “concerning the subject matter” in preemption clauses casts an overly
broad net and leads to additional confusion when examining policies that are similar but not clearly addressed. For example, in our review of youth access policies, there were local regulations concerning retailer permits and retailer “penalty points” that may be preempted depending on how broadly the state preemption is interpreted. Finally, the FDA’s retaining sole power to regulate tobacco product and labeling standards is another example of a WTS policy gap that cannot be filled with locally tailored approaches. Until the FDA takes action to regulate water pipe tobacco and water pipe design standards, this will continue to be a policy gap caused by preemption. Many of these issues could be avoided through the implementation of minimum standards approaches, as opposed to preemption criteria that set a bar for maximum stringency. Allowing additional localized stringency would provide an opportunity to tailor WTS regulations in localities where it is more prevalent, and to be responsive to emerging tobacco-related public health concerns such as WTS in a more timely manner.

When tailoring TCP verbiage to engage WTS, two basic approaches can be used. The first of these is broad inclusion, in which water pipe tobacco is approached as an “other product containing tobacco,” and WTS is approached generally as “smoking of tobacco or tobacco substitutes.” The other approach might be called precise inclusion, where “water pipe” and “water pipe use” are included and clearly defined within policy text. If the latter approach is used, detailed descriptions should reflect the unique mechanics of WTS, such as that water pipes are not “carried” (i.e., CIAA; Table 2) but are typically stationary when in use, and that they are also not “lighted” with a flame as other tobacco products are. Alternate language might include terms such as operating instead of carrying, and combusting or burning instead of lighting, to broaden the applicability to WTS.

Although we used a two-pronged search approach involving both legal databases and Internet queries, we may have missed TCPs currently active in Pennsylvania—in particular, local policies that are older or no longer in use. This is especially true because there is considerable variability among municipal Web site usabilities. Further, policy documents vary in length and organizational structure, can be revised or updated periodically, and are not consistently indexed in central repositories. Thus, we were unable to utilize gold standard approaches for broader systematic review (e.g., Cochrane Review). We hope that our pragmatic yet systematic approach can be used as a methodological guidepost for TCP synthesis and be further refined via future research. It is also a necessary and understood limitation of this type of research that texts can be interpreted in various ways. Although we used a comprehensive and iterative approach to data collection, codebook development, and analysis, this limitation remains important to note.

In summary, WTS is a relatively new trend among adolescents and young adults in the United States and policymakers have yet to engage this trend as effectively as they have with other popular forms of tobacco use. As policymakers continue to adapt TCPs to promote public health, it will be important to consider the emerging health impacts of WTS. Based on this study, we would recommend that modifications or amendments be made to existing TCPs in order to clarify the context and relationship to WTS. As we have discussed, current TCPs have several areas where they may be modified, including how “smoking” or “tobacco product” is defined, and how excise taxes are levied on tobacco products so that they are specifically applicable to water pipe tobacco. Policymakers should consider the pitfalls of legal preemptions and dated exemption criteria in light of these findings. For emergent tobacco products, such as WTS, it seems reasonable to set minimum standards and to allow increased stringency in localities that are most affected by emerging trends. Such changes are likely to save lives and promote public health by approaching and mitigating the dangers that are unique to WTS among other types of tobacco use. Continued review and consideration of the developing scientific research on WTS will help health promotion advocates provide clear, evidence-based recommendations for implementing WTS-specific reforms. Ultimately, we hope that these findings can be translated into policy reforms that are responsive to the current environment of tobacco use.

SO WHAT? Implications for Health Promotion Practitioners and Researchers

What is already known on this topic?

Water pipe tobacco smoking (WTS) is associated with serious health risks and has been growing in popularity among a diverse demographic of U.S. young adults. Although federal, state, and local policy interventions have demonstrated efficacy in reducing cigarette use, it is unclear to what extent they engage WTS as a public health concern.

What does this article add?

This analysis systematically assesses content of tobacco control policy (TCP) texts, as well as their interactions on federal, state, and local levels, to examine their applicability to WTS. This qualitative approach allows for more nuanced understandings to inform future research and recommendations to develop model legislation in this active policy arena.

What are the implications for health promotion practice or research?

Health promotion advocates might work toward TCPs that more effectively engage WTS. This may include updating policies that have dated verbiage and replacing preemptions with minimum standards based on emergent WTS health research. Researchers will benefit from building upon this theoretical framework in the continued assessment of TCPs.

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References
