Waterpipe (hookah) tobacco smoking is on the rise worldwide. While the health risks of waterpipe tobacco smoking are similar to those of cigarettes, the culture and context of use are different, so tobacco control policies designed for cigarettes may not be as effective for waterpipe tobacco smoking.

What is Waterpipe Tobacco Smoking?
Waterpipe tobacco smoking refers to using a waterpipe (also known as a hookah, shisha, narghile, etc.) to deliver tobacco smoke after passing it through water. Waterpipe tobacco smoking can effectively deliver nicotine to users and the tobacco comes in a wide variety of flavors. Smoking waterpipe tobacco can take a long time—often more than an hour—and is a highly social activity, often shared among multiple people in a café or lounge.

The Unique Appeal of Waterpipes
Waterpipes have been used to smoke tobacco for centuries around the world, but in recent years have become more popular, especially among youth. In some groups within the United States, 10-20% of young adults currently smoke tobacco with a waterpipe, sometimes beginning as early as middle school. In Virginia, 72% of high school students and 3.3% of middle school students reported using a waterpipe to smoke tobacco in the past 30 days, compared to 8.2% of high school students and 1.6% of middle school students who smoked a cigarette in the past month.

Young people report that waterpipe tobacco smoking is an entertaining, relaxing, and exotic way to spend time with friends. Many (though not all) youth see waterpipe tobacco smoking as less dangerous than smoking cigarettes, with a lower risk of addiction. In fact, while nearly 95% of Virginia middle school students see smoking hookah as very or somewhat dangerous to health, nearly a quarter of high school students see smoking hookah as less dangerous than smoking cigarettes.

The growing popularity of waterpipe use among young people around the world may be attributed to the favored tobacco, the social aspect and café culture, media exposure, and the absence of tobacco policies that specifically address waterpipe tobacco smoking. This is concerning not only because waterpipe tobacco smoking may predispose youth to cigarette smoking, but also because waterpipes can lead to the same health problems as cigarettes.

Waterpipes are Not Safer Than Cigarettes
While the health effects of waterpipe tobacco smoking have not been studied as much as those of cigarette smoking, there is evidence that waterpipes and cigarettes lead to similar health problems. These can include short-term pulmonary problems like increased heart rate and blood pressure and carbon monoxide intoxication, as well as long-term respiratory problems like bronchitis, emphysema and coronary artery disease.

Waterpipe tobacco smoking is also associated with cancer, which may be due to the large concentrations of toxicants and carcinogens found in the smoke. This is problematic not only for the smoker, but...
potentially for others as well: secondhand waterpipe smoke can contain dangerous levels of particulate matter, including carcinogens, nicotine and, because waterpipes are often shared, bacteria.9,10,11

**Waterpipes Are Associated With Nicotine Dependence**

Existing evidence suggests that waterpipe tobacco smoking can cause dependence symptoms. Not only does waterpipe tobacco smoking deliver nicotine effectively, but some people use a waterpipe for tobacco daily, and experience dependence symptoms like withdrawal, tolerance, changing behavior to accommodate waterpipe smoking, and difficulty quitting.2 This is especially problematic because many people perceive waterpipe tobacco smoking to be less harmful than other forms of tobacco use.2

**What to Look For Next**

Waterpipe tobacco smoking is becoming more popular, particularly among youth and young adults, despite recent evidence suggesting that it is associated with serious health hazards, including nicotine dependence. Recently, there has been a call for regulations specific to waterpipe tobacco smoking. However, tobacco control policy has largely glossed over waterpipe tobacco smoking, and there is no explicit regulatory framework for waterpipe tobacco.12 Further, waterpipes are often served in cafés and marketed on the internet, so traditional methods of informing the public of health risks by warnings on packaging and through television and print media may have limited effectiveness.10

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This Policy Brief was prepared by **Rose S. Bono**, Research Assistant in the Department of Health Behavior and Policy at Virginia Commonwealth University (VCU); **Andrew J. Bames**, PhD, Assistant Professor in the Department of Health Behavior and Policy at VCU and affiliate faculty in the VCU Center for the Study of Tobacco Products; and **Thomas Eissenberg**, PhD, Professor in the Department of Psychology at VCU and Director of the VCU Center for the Study of Tobacco Products. This project was funded by the National Institutes of Health through award number P50DA036105 to the Center for the Study of Tobacco Products. The content is solely the responsibility of the authors and does not necessarily represent the views of the NIH.

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**To Promote Public Health and Prevent Waterpipe Tobacco Smoking Related Disease, Tobacco Control Policy Should Aim to:**

1. Revise public policies to include waterpipe tobacco smoking;
2. Create public education campaigns, particularly for youth, that highlight the risks of waterpipe tobacco smoking and dispel myths that waterpipe tobacco smoking is less harmful than other forms of nicotine administration; and
3. Fund research that focuses on waterpipe tobacco smoking and dependence.

These three actions may help reduce tobacco-related disease burden by helping the public make healthier choices about waterpipe tobacco smoking.2

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**1 Session of Hookah Smoking**

<table>
<thead>
<tr>
<th>Toxin</th>
<th>1 Cigarette</th>
</tr>
</thead>
<tbody>
<tr>
<td>242-2350mg</td>
<td>Tar 1-27mg</td>
</tr>
<tr>
<td>&gt;0.01-9.29mg</td>
<td>Nicotine 0.1-3mg</td>
</tr>
<tr>
<td>5.7-367mg</td>
<td>Carbon Monoxide 14-23mg</td>
</tr>
<tr>
<td>36-630µg</td>
<td>Formaldehyde 20-100µg</td>
</tr>
<tr>
<td>200-6870ng</td>
<td>Lead 34-85ng</td>
</tr>
</tbody>
</table>

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In Virginia, smoke-free air laws and restrictions on sales to minors do not list waterpipe tobacco specifically, but instead may include such devices under the broad terms “lighted smoking equipment” or “pipes.” In 2015, the Virginia Supreme Court decided that hookah lounges that serve food are not exempt from the Virginia Indoor Clean Air Act due to their status as restaurants, even if they also operate as retail tobacco stores.13 The fact that this case reached the highest court in the Commonwealth highlights the ambiguity in the laws and the need for clarity in waterpipe regulation.

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