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**Testimony of American Cancer Society Cancer Action Network
to the Board of Health for Madison and Dane County
December 11, 2014**

Good Evening Chair Judy Wilcox, Vice Chairs Mark Edgar and Patricia Lasky, and Members of the Board of Health for Madison and Dane County, and thank you for the opportunity to weigh in tonight. My name is Sara Sahli and I represent the American Cancer Society Cancer Action Network (ACS CAN), the nonprofit, nonpartisan, advocacy affiliate of the American Cancer Society.

I am pleased to offer our support of the current version of the ordinance amending Sections 23.05(1) and creating Section 23.05(2)(a)(7) of the Madison General Ordinances to define and prohibit the use of an electronic delivery device.

Electronic cigarettes, or e-cigarettes, including supposed non-nicotine e-cigarettes, should be prohibited in all workplaces, restaurants, and bars to protect against secondhand exposure to nicotine and other potentially harmful chemicals, to ensure the enforcement of existing smoke-free laws are not compromised, and that the public health benefits of smoke-free laws are not undermined.

While the health effects of e-cigarettes are currently under study, there are still serious questions about the safety of inhaling the substances in e-cigarette aerosol. Studies have shown that the use of e-cigarettes can cause short-term lung changes and irritations, while the long-term health effects are unknown.¹ Both exposure to and health effects of secondhand aerosol from e-cigarettes require further research, but preliminary studies indicate nonusers can be exposed to the same potentially harmful chemicals as users, including nicotine, ultrafine particles and volatile organic compounds.² This exposure could be especially problematic for vulnerable populations such as children, pregnant women, and people with heart disease depending on the level of exposure.

Over the last several years, there has been a dramatic growth in the marketing and sale of e-cigarettes and in the claims being made by e-cigarette manufacturers, as well as a proliferation in the various types of e-cigarettes being sold. Despite the dramatic rise in the use of e-cigarettes, very little is known about their actual health risks or their impact on youth tobacco use or whether they are effective in helping

¹ Callahan-Lyon, P. Electronic cigarettes: human health effects. Tobacco Control 2014; 23: ii36-II40.

² Saffari, A et al. particulate metals and organic compounds from electronic and tobacco-containing cigarettes: comparison of emission rates and secondhand smoke exposure. Environmental Science Processes & Impacts 2014; DOI: 10.1039/c4em00415a. Flouris, AD et al. Acute impact of active and passive electronic cigarette smoking on serum cotinine and lung function. Inhalation Toxicology 2013; 25(2): 91-101.

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smokers quit. No federal agency currently regulates how e-cigarettes are made or how and to whom they are marketed and sold. Allowing the use of electronic cigarettes or e-cigarettes in public spaces undermines smoke-free laws, creates confusion for business owners and the public, and complicates enforcement efforts.

Because electronic cigarette use simulates the behavior of smoking, use of these products complicates enforcement of the existing smoke-free air law and weakens its effectiveness. De-normalizing smoking, in addition to reducing exposure to secondhand smoke, is a key rationale for secondhand smoke laws in public places.³ Product advertisements show e-cigarettes being used in areas where smoking is prohibited—touted for their ability to be “smoked anywhere”. The use of e-cigarettes in this manner undermines the city’s successful efforts to create a smoke-free environment, modeling healthy behavior, especially for children. Not only does this behavior deteriorate the social norms that the city has worked hard to institute, but it can be a trigger to smoke for smokers who are trying to quit. Use of an e-cigarette in public places normalizes the action of smoking.

Additionally, the use of these products, which often resemble traditional cigarettes, and produce a visible cloud when exhaled, are causing confusion for the public and enforcement officials alike. Business operators, striving to follow existing law shouldn’t have to become experts at differentiating between cigarettes and e-cigarettes. If it looks like someone is smoking in a public space where it is prohibited, it should be treated as such. This confusion around enforcement has already led some businesses to voluntarily declare that use of electronic cigarettes is prohibited in their establishments. Furthermore, 3 states and more than 100 localities have enacted provisions to their smoke free laws, similar to this proposal, to deal with this growing problem⁴.

The use of e-cigarettes is increasing, including among youth. A Centers for Disease Control and Prevention (CDC) report (*National Youth Tobacco Survey, reported in Sept 6, 2013 Morbidity and Mortality Weekly Report*) shows that in the United States from 2011 to 2012—just one year—the percentage of youth (middle and high school students) using e-cigarettes more than doubled. Furthermore, more than 75% of the youth surveyed who used e-cigarettes also smoked conventional cigarettes. The 2014 Youth Tobacco Survey (YTS) (*UW-Milwaukee Center for Urban Initiatives and Research*) found that 8% of Wisconsin high school youth have used an e-cigarette in the past 30 days, a number 75% higher than the national average.

E-cigarettes are widely available and often are not subject to the legal restrictions to which cigarettes and other tobacco products are required to adhere. E-cigarettes are advertised on television, radio, online, in print magazines, including those with high youth readership, and at sports and music events. Particularly troublesome is that some e-cigarette manufacturers are using the same marketing practices effectively used by the tobacco companies to target youth and mislead consumers about the potential health impact of their products. These practices include celebrity endorsements, sports and musical

³ U.S. Department of Health and Human Services (HHS), Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General, HHS, U.S. Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2012.

⁴ Americans for Non-Smokers Rights. <http://www.no-smoke.org/>

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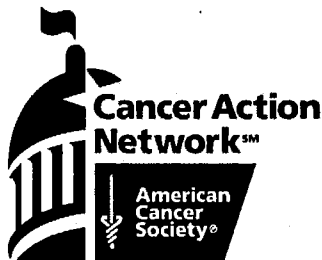
sponsorships, use of images of e-cigarettes as rebellious, sexy and cool and the use of candy flavorings in their products.

While e-cigarette manufacturers may claim the ingredients are just “water vapor” or “safe,” without federal regulation there is no sure way for e-cigarette users to know what they are consuming. Nor is there any way of knowing what nonusers are exposed to and the extent of the risk to their health. Additionally, there are hundreds of types of e-cigarettes on the market today and the products vary considerably by ingredients, and quality control and assurance. Prohibiting the use of e-cigarettes in workplaces, restaurants, and bars can protect the public health by preventing nonusers from being exposed to nicotine and other potentially harmful chemicals in these products.

ACS CAN supports the inclusion of electronic cigarettes in Section 23.05(1) and Section 23.05(2)(a)(7) of the Madison General Ordinances. Effective regulation of these products is essential to protect public health and prevent e-cigarettes from creating a new generation of tobacco users. The Madison Common Council can ensure that history does not repeat itself by passing this ordinance.

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E-Cigarettes & Smoke-free Laws

ACS CAN's Current Views

E-cigarette use should be prohibited in all workplaces, restaurants, and bars.

ACS CAN advocates for comprehensive smoke-free laws in all workplaces to protect workers and the public from the harmful effects of secondhand exposure and to create communities that support tobacco-free living. Electronic cigarettes, or e-cigarettes, including supposed non-nicotine e-cigarettes, should also be prohibited in all workplaces, restaurants, and bars to protect against secondhand exposure to nicotine and other potentially harmful chemicals, to ensure the enforcement of existing smoke-free laws are not compromised, and that the public health benefits of a smoke-free laws are not undermined.

E-cigarette aerosol can contain nicotine and other potentially harmful chemicals.

E-cigarettes are typically battery-operated products designed to deliver a heated solution, or aerosol of nicotine and other chemicals, to the user. E-cigarettes can be disposable or consist of a rechargeable, battery-operated heating element; a replaceable or refillable cartridge that may contain nicotine, flavoring agents, and other chemicals (sometimes called "e-juices"); and an atomizer that uses heat to convert the contents of the cartridge into an aerosol that is inhaled by the user.¹

A growing number of studies have examined the contents of e-cigarette aerosol. Unlike a vapor, an aerosol contains fine particles of liquid, solid, or both. Propylene glycol, nicotine, and flavorings were most commonly found in e-cigarette aerosol. Other studies have found the aerosol to contain heavy metals, volatile organic compounds and tobacco-specific nitrosamines, among other potentially harmful chemicals.^{2,3} A 2009 study done by the FDA found cancer-causing substances in several of the e-cigarette samples tested.⁴ Additionally, Food and Drug Administration (FDA) tests found nicotine in some e-cigarettes that claimed to contain no nicotine.

Firsthand exposure to the aerosol comes from personal use of an e-cigarette. Secondhand exposure occurs when the user exhales the aerosol, at which time, a nonuser can be exposed. The level of secondhand exposure to a nonuser will depend on a number of factors including the type of e-cigarette used, particle sizes in the aerosol, how the e-cigarette is used, and other environmental factors such as air flow and room size.

Chemicals identified in some e-cigarette aerosol include:

- Propylene glycol
- Nicotine
- Tobacco-specific nitrosamines
- Metals
- Volatile organic compounds
- Polycyclic aromatic hydrocarbons
- Flavorings

While the health effects of e-cigarettes are currently under study, there are still serious questions about the safety of inhaling the substances in e-cigarette aerosol. Studies have shown that the use of e-cigarettes can cause short-term lung changes and irritations, while the long-term health effects are unknown.⁵ Both exposure to and health effects of secondhand aerosol from e-cigarettes require further research, but preliminary studies indicate nonusers can be exposed to the same potentially harmful chemicals as users, including nicotine, ultrafine particles and volatile organic compounds.^{6,7} This exposure could be especially problematic for vulnerable populations such as children, pregnant women, and people with heart disease depending on the level of exposure.

Finally, it is important to establish the potential exposure and associated risks of e-cigarette aerosol to users and nonusers, in addition to comparing those risks to exposure to cigarette smoke, as several studies have done.

E-cigarette use in workplaces, restaurants, and bars can undermine the public health benefits of smoke-free laws and compromise enforcement.

Tobacco users are not the only ones who breathe its deadly smoke—all the people around them are forced to inhale it too. Recognizing that there is no safe level of secondhand smoke exposure, 24 states and more than 673 localities have comprehensive smoke-free laws.⁸ These laws not only protect nonusers from exposure to secondhand smoke, they also reduce the acceptability of smoking which reduces the number of people, especially youth, who start smoking and increases quit attempts by smokers. The increased protection and reduced acceptability have led to lower smoking rates and improved health status, including fewer heart attacks and cancers.⁹

The use of e-cigarettes in workplaces, restaurants, and bars can undermine the public health benefits that have been and continue to be achieved by smoke-free laws. E-cigarette users who continue to use cigarettes will not experience the health benefits of quitting, and nonusers can be exposed to their secondhand aerosol. Because some e-cigarettes are designed to look like cigarettes and cigars, the unacceptability of smoking in these places could be compromised which could lead to new users or a reduction in current users who quit. Additionally, from a practical standpoint, business owners can face difficulty when enforcing smoke-free laws if e-cigarette use is permitted because of their designs. These risks do not prevent some e-cigarette manufacturers from specifically marketing their products for use in places where smoking is prohibited.

E-cigarette use is on the rise and requires federal, state, and local action.

Since the introduction of e-cigarettes to the U.S. market approximately 7 years ago, the marketing and use of these products have increased.

- Youth: A study from the Centers for Disease Control and Prevention (CDC) found that e-cigarette use increased from 3.3 to 6.8 percent among middle and high school students between 2011 and 2012, resulting in an estimated 1.78 million youth who have tried e-cigarettes.¹⁰
- Adults: A study looking at data from 2010-2013 found an increase in the number of adults who have ever used e-cigarettes, from 3.3 to 8.5 percent. In 2013, 36.5 percent of current smokers had ever tried e-cigarettes, as compared to 79.8 percent of former smokers and 1.2 percent of never smokers.¹¹

While e-cigarette manufacturers may claim the ingredients are just “water vapor” or “safe,” without federal regulation there is no sure way for e-cigarette users to know what they are consuming. Nor is there any way of knowing what nonusers are exposed to and the extent of the risk to their health. Additionally, there are hundreds of types of e-cigarettes on the market today and the products vary considerably by ingredients, and quality control and assurance. Prohibiting the use of e-cigarettes in workplaces, restaurants, and bars can protect the public health by preventing nonusers from being exposed nicotine and other potentially harmful chemicals in these products.

1 U.S. Food and Drug Administration. E-Cigarettes: Questions and Answers. September 17, 2010. Available online at <http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm225210.htm>.

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3 Goniewicz, ML et al. Levels of selected carcinogens and toxicants in vapour from electronic cigarettes. *Tobacco Control* 2014; 23:122-9.

4 U.S. Food and Drug Administration. Summary of Results: Laboratory Analysis of Electronic Cigarettes Conducted by FDA. July 22, 2009. Available online at <http://www.fda.gov/NewsEvents/PublicHealthFocus/ucm173146.htm>.

5 Callahan-Lyon, P. Electronic cigarettes: human health effects. *Tobacco Control* 2014; 23: ii36-ii40.

6 Saffari, A et al. particulate metals and organic compounds from electronic and tobacco-containing cigarettes: comparison of emission rates and secondhand smoke exposure. *Environmental Science Processes & Impacts* 2014; DOI: 10.1039/c4em00415a.

7 Flouris, AD et al. Acute impact of active and passive electronic cigarette smoking on serum cotinine and lung function. *Inhalation Toxicology* 2013; 25(2): 91-101.

8 American Cancer Society Cancer Action Network. How Do You Measure Up 2014. <http://www.acscan.org/content/wp-content/uploads/2014/08/HDYMU-2014-Report.pdf>

9 U.S. Department of Health and Human Services. The Health Consequences of Smoking: 50 Years of Progress. A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014.

10 Centers for Disease Control and Prevention. Electronic Cigarette Use Among Middle and High School Students – United States – United States, 2011-2012. *MMWR* 2013; 62(35): 729-730

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