

# Strengthening the Capacity of Local Health Departments to Reduce Exposure to Electronic Nicotine Delivery Systems

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**E**lectronic nicotine delivery systems (ENDS) are battery-powered products that heat and vaporize a solution, typically nicotine, in the form of an aerosol.<sup>1</sup> The aerosol, commonly called vapor, is inhaled by the user and then exhaled as an aerosol cloud.<sup>2</sup> Many types of ENDS are currently on the market including e-cigarettes, e-hookahs, hookah pens, vape pens, and e-cigars.

The use of ENDS has risen in recent years. Between 2010 and 2013, the rates of adults using ENDS at least once in their lifetime tripled from 3.3% to 8.5%.<sup>3</sup> Over the same period, current cigarette smokers who have ever used an e-cigarette increased from 9.8% to 36.5%.<sup>3</sup> Although ENDS are considered by some to be “substitutions” to conventional smoking, the majority of adult ENDS users also smoke cigarettes, a practice referred to as “dual use.”<sup>4</sup> The limited research conducted on the use of ENDS as an effective strategy for smoking cessation is inconclusive.<sup>5</sup>

The increased use of ENDS among youth is especially striking. In a survey of students, the proportion of those who reported having used e-cigarettes within the past 30 days rose from 1.5% to 13.4% among high school students and 0.6% to 3.9% among middle school students from 2011 to 2014, respectively.<sup>6</sup> In 2015, current use of e-cigarettes exceeded current use of every other tobacco product combined among middle and high school students.<sup>6</sup>

While ENDS do not emit smoke, they still expose the public to a range of toxins that could potentially cause acute and chronic ailments.<sup>4</sup> Aside from nicotine, ENDS aerosols have been found to contain food flavorings, heavy metals, ultrafine particulate, and cancer-causing agents.<sup>4</sup> Poisonings have occurred among users and nonusers due to ingestion of

the nicotine liquid (e-liquid) and absorption of the e-liquid through the skin.<sup>4</sup> Emergency calls to poison control centers regarding ingestion of liquid nicotine increased from 1 per month in September 2010 to an alarming 215 per month in February 2014. More than half of those ingestion incidents involved children younger than 5 years.<sup>4</sup> More research is needed to determine the effects of inhaling these substances, and exposure to the aerosols should be minimized.

Because of the potential for harm associated with ENDS and their increased usage, the Food and Drug Administration (FDA) announced in May 2016 that it will extend its regulatory authority through the Tobacco Deeming Rule to include all forms of tobacco products, including ENDS, cigars, pipe tobacco, and hookah.<sup>7</sup> Previously, the manufacturing, advertising, and sale of ENDS were entirely unregulated. In August 2016, the FDA initiated enforcement of the provisions prohibiting the sale of ENDS to anyone younger than 18 years and requiring age verification for sale to people who appear younger than 27 years. Additional provisions will take effect in 2017, requiring disclosure of the product ingredients and, in 2018, requiring health warnings on the packaging. The FDA will also regulate ENDS accessories if they contain tobacco or nicotine.<sup>7</sup>

Local health departments and the communities they serve have been grappling with the public health impact of ENDS for years. Many local health departments took early steps to prohibit the sale of ENDS products to minors in their jurisdictions. By the time the 2016 FDA Tobacco Deeming Rule took effect, more than 500 local municipalities had already incorporated ENDS restrictions into existing laws that mandated 100% smoke-free environments.<sup>8</sup>

Local health departments have opportunities beyond the Tobacco Deeming Rule to further protect their community members. As seen in some communities, local health departments can use their role as public health leaders to advise key stakeholders in methods to exclude ENDS use in smoke-free workplaces and in development of smoke-free policies in a variety of settings.

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Smoke-free workplaces are a critical component in comprehensive smoke-free community policies. Over the last few decades, smoke-free workplaces have increasingly protected workers from incidental smoke exposure. Ending workers' exposure to ENDS vapors and aerosols can similarly be addressed through policy change. State and local governments can amend their clean indoor air laws to include restrictions on ENDS. Alternately, employers have the authority to complement existing state and local laws by prohibiting use of ENDS in their establishments. Local health departments can work with their governments and area employers to incorporate ENDS in these policies.

Smoke-free housing policies are strategies used to protect residents from smoke exposure, particularly in multiunit and public housing communities. These policies can also protect residents from exposure to aerosols from ENDS. Local health departments have the opportunity to collaborate with housing owners, managers, and residents to restrict use of ENDS in their properties and provide critical tobacco cessation resources. Smoke-free policies can also be extended to restrict the use of ENDS in schools, colleges, hospital-ity settings, and sporting venues.

Finally, local health departments can educate community members regarding risks associated with the use of and exposure to ENDS and reinforce proven cessation methods such as counseling and nicotine replacement therapy. This education can be delivered by health department staff or volunteer engagement. The Lake County General Health District (LCGHD) in Ohio uses its volunteer-based Medical Reserve Corps (MRC) as an extension of efforts in the "fight against Big Tobacco." The LCGHD works with the MRC volunteers as staffing solution to address ENDS use in Lake County. This health department takes an all-encompassing approach by incorporating all forms of tobacco use, including ENDS, when surveying and educating the public on the dangers of using tobacco.

Over the past year, Lake County MRC has played a major role in expanding the LCGHD's workforce by providing education and administering surveys at several community events such as recreational running races and county fairs. MRC volunteers educated the community on the dangers of all forms of tobacco by distributing an e-cigarette fact sheet and other informational materials as part of their large-scale effort to change perceptions and behaviors associated with tobacco products. The community tobacco survey they conducted asked participants to express their opinion using a Likert scale on local tobacco-free places including beaches, fairgrounds, hiking/biking trails, parks, playgrounds, and outdoor sporting facilities. The survey also asked other questions about general demographic information, whether they

smoke, and how frequently they visit recreation locations. Results from this survey will be used to support smoke-free environment policies throughout Lake County.

In the year to come, the LCGHD will work with the Lake County MRC, the Lake Metropolitan Housing Authority, and the Lake Geauga Ashtabula Tobacco Prevention Coalition to disseminate another survey at multiunit public housing locations. MRC volunteers will survey residents about the prevalence of chronic illness in their household, number of smokers in the household, secondhand smoke intake, and their opinion on living in a smoke-free building. Results from these environmental surveys can be used to guide and support policy adoption at the local level (eg, including ENDS into the Lake Metropolitan Housing Authority's smoke-free laws).

The National Association for County & City Health Officials (NACCHO) provides technical assistance and resources to local health departments related to tobacco prevention and control strategies. Local health department leaders can find policy statements, fact sheets, and stories from the field about ENDS and tobacco prevention on NACCHO's Web site. For further information, visit [naccho.org](http://naccho.org).

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