

## Ten Reasons Not to Allow E-cigarette Use Inside Jails

### What are electronic, or e-cigarettes?

E-cigarettes are battery operated devices that heat and aerosolize liquid containing nicotine and other toxins.<sup>1</sup> They may look like regular cigarettes, pens or markers, or have other designs. Users inhale and exhale a mix of gases and tiny particles carrying toxins into their lungs and into the air around them. If your jail has a tobacco-free policy, it is recommended that e-cigarette use not be permitted indoors or outdoors.

#### 1. E-cigs pollute the air.<sup>2-4</sup>

- E-cigs give off tiny particles that can travel deep into the lungs<sup>5</sup> and the bloodstream, causing disease.<sup>6</sup>
- These particles can reach concentrations almost as high as were found in Lexington businesses before their smoke-free law.<sup>4</sup>

#### 2. E-cigs give off more than just water vapor, including:

- Propylene glycol (lung and eye irritant).<sup>2,3</sup>
- Formaldehyde and  $\beta$ -nicotyrine (cause cancer).<sup>2,3</sup>
- Metal & silicate particles (toxic to human cells).<sup>7</sup>
- Nicotine (addictive and harmful to the heart).<sup>2,3</sup>

#### 3. E-cigs undermine smoke-free policies by making enforcement confusing.<sup>8</sup>

- Jail employees may not be able to determine which inmates are using conventional cigarettes and which are using e-cigarettes.
- Inmates may see e-cigarette use and assume conventional smoking is allowed.

#### 4. Delayed regulations on manufacture and sale = no consumer protection.<sup>9,10</sup>

- No way to know what users are breathing in or putting into the air for others to breathe.
- No protection from dangerous design flaws or user modifications.

#### 5. High nicotine levels in e-cig fluid can be deadly.

- High levels of nicotine can be absorbed through spills on the skin if devices leak or are broken.<sup>10</sup>
- Kentucky has seen a 333% increase in calls to poison control centers from e-cigarettes.<sup>11</sup>

#### 6. E-cig labels may not be accurate.<sup>1</sup>

- E-cigarettes labeled as zero nicotine may still contain nicotine.
- Amounts of nicotine may be more or less than what is on the label.

#### 7. E-smokers are no more likely to quit than regular smokers.<sup>12</sup>

- Many e-cigarette users continue to smoke regular cigarettes as well.
- Smoking even 1-4 cigarettes a day increases risk of dying from heart disease and all causes of death.<sup>13</sup>
- E-cigarettes are not approved by the FDA to help smokers quit.

#### 8. E-cigs appeal to youth, even those who don't smoke.<sup>14</sup>

- Glamorous marketing and sweet, candy-like flavorings (bubble gum).
- 1.78M youth tried e-cigarettes in 2012 (160,000 of them *non-smokers*).<sup>14</sup>
- Juveniles who use e-cigarettes are more likely to smoke regular cigarettes.<sup>15</sup>

#### 9. Early research shows lung and blood effects similar to smoking.

- Five minutes of e-cigarette use has lung effects similar to tobacco smoke.<sup>16</sup>
- Airways become inflamed after using e-cigarettes containing nicotine.<sup>4</sup>
- Blood cell changes could contribute to heart and blood vessel disease.<sup>17</sup>

#### 10. E-cigs may pollute the air less than regular cigarettes, but they still pollute the air.<sup>2-4</sup>

- Jail employees, visitors, and inmates are exposed to secondhand aerosol from e-cigarettes.

**Be Part of the Solution – Keep the Air Clean and Healthy inside Jails!**

## References

1. Flouris AD, Oikonomou DN. Electronic cigarettes: miracle or menace? *BMJ (Clinical research ed)*. 2010;340:c311.
2. Laugesen M. *Safety Report on the Ruyan® e-cigarette Cartridge and Inhaled Aerosol*. Christchurch: Health New Zealand Ltd.; October 30, 2008.
3. Westenberger BJ. *Evaluation of e-cigarettes*. St. Louis, MO: Food and Drug Administration, Center for Drug Evaluation and Research, Division of Pharmaceutical Analysis; May 4 2009, May 4.
4. Schober W, Szendrei K, Matzen W, et al. Use of electronic cigarettes (e-cigarettes) impairs indoor air quality and increases FeNO levels of e-cigarette consumers. *International journal of hygiene and environmental health*. 2013.
5. Grana R, Benowitz N, Glantz SA. E-cigarettes: a scientific review. *Circulation*. 2014;129(19):1972-1986.
6. Benowitz NL, Burbank AD. Cardiovascular toxicity of nicotine: Implications for electronic cigarette use. *Trends in cardiovascular medicine*. 2016;26(6):515-523.
7. Williams M, Villarreal A, Bozhilov K, Lin S, Talbot P. Metal and silicate particles including nanoparticles are present in electronic cigarette cartomizer fluid and aerosol. *PloS one*. 2013;8(3):e57987.
8. World Health Organization. Regulatory scope. Tobacco product regulation. Electronic nicotine delivery systems. *Drug Information*. 2010;24(1):30-32.
9. FDA announces comprehensive regulatory plan to shift trajectory of tobacco-related disease, death [press release]. U.S. Food & Drug Administration, July 28 2017.
10. Trtchounian A, Talbot P. Electronic nicotine delivery systems: is there a need for regulation? *Tobacco control*. 2011;20(1):47-52.
11. Roetker M. E-cigarettes cause alarming increase in calls to poison control center. *Global Newswire*. December 9, 2013.
12. Adkison SE, O'Connor RJ, Bansal-Travers M, et al. Electronic nicotine delivery systems: international tobacco control four-country survey. *American journal of preventive medicine*. 2013;44(3):207-215.
13. Bjartveit K, Tverdal A. Health consequences of smoking 1-4 cigarettes per day. *Tobacco control*. 2005;14(5):315-320.
14. Notes from the field: electronic cigarette use among middle and high school students - United States, 2011-2012. *MMWR Morbidity and mortality weekly report*. 2013;62(35):729-730.
15. Dutra LM, Glantz SA. Electronic cigarettes and conventional cigarette use among U.S. adolescents: a cross-sectional study. *JAMA pediatrics*. 2014;168(7):610-617.
16. Vardavas CI, Anagnostopoulos N, Kougias M, Evangelopoulou V, Connolly GN, Behrakis PK. Acute pulmonary effects of using an e-cigarette: impact on respiratory flow resistance, impedance and exhaled nitric oxide. *Chest*. 2011.
17. Hom S, Chen L, Wang T, Ghebrehwet B, Yin W, Rubenstein DA. Platelet activation, adhesion, inflammation, and aggregation potential are altered in the presence of electronic cigarette extracts of variable nicotine concentrations. *Platelets*. 2016;27(7):694-702.