

## E-Cigarettes and Public Health

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The advent of electronic cigarettes (e-cigarettes) and the dramatic rise of their use especially in adolescents and young adults continues to be of significant concern. E-cigarettes have been the most popular tobacco product for youth and adolescents in the United States since 2014 and attract youth to different avenues for nicotine addiction.<sup>1,2</sup>

There is evidence that the use of e-cigarettes may catalyze transition to the use of combustible tobacco products or recreational drugs, particularly in young adults.<sup>3,4</sup>

The long-term health effects of e-cigarettes and the net public health effect associated with their use remain unclear. A 2018 review of the latest research on e-cigarettes found that e-cigarette aerosol contains fewer numbers and lower

levels of toxicants than combustible tobacco cigarettes, but the evidence suggests that e-cigarettes are not without adverse biological effects; however, they may pose less risk than continuing to smoke cigarettes.<sup>6</sup> However, a recent meta-analysis of 107 studies, found no significant difference in the odds of developing cardiovascular disease, stroke, or metabolic dysfunction for adults who smoke only e-cigarettes versus those who smoke only cigarettes.<sup>7</sup> Additionally, use of e-cigarettes and cigarettes is associated with higher odds of developing cardiovascular disease, stroke, or metabolic disease.<sup>7</sup> Furthermore, in adolescent e-cigarette users, there is increasing evidence of heart and vascular changes that increase the risk of cardiovascular disease.<sup>9</sup>

### c h o i o i M i

The American Heart Association supports further research to develop novel cessation products that can be approved by the FDA's Center for Drug and Evaluation Research.<sup>10</sup> According to the 2016 National Academies of Science, Engineering, and Medicine report there is not substantial evidence to support that e-cigarettes serve as an effective cessation aid in comparison to other FDA approved smoking cessation treatments.<sup>8</sup>

The American Heart Association supports the development of strong regulation at the federal, state, and local levels to protect against youth access and initiation, re-

For more information and resources from the American Heart Association's policy research department on tobacco please visit:

<https://www.heart.org/en/about-us/policy-research>.

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References:

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