

## Commentary

December 18, 2014

### *“Vaping” – The Transformation of Marijuana*

The health dangers of tobacco are well-known. Not only is the tobacco use harmful to the smoker, but it is unhealthy for others around the smoker. This knowledge is crucial to prevention messages and the resulting dramatic reductions in cigarette smoking. Cigarette use in the US is now the lowest in recent history.<sup>1</sup>

Today E-cigarettes, which vaporize nicotine rather than burn tobacco, are revitalizing the tobacco industry by eliminating smoke and with it the carcinogens and lung irritants. E-cigarettes, which are becoming increasingly popular, effectively deliver nicotine and thus cause or sustain nicotine addiction. E-cigarettes are safer than smoking tobacco but they are far from safe.

Now vaporizing is transforming the marijuana industry by delivering tetrahydrocannabinol (THC), the psychoactive chemical in marijuana, without smoke. The term used for this type of marijuana use is “vaping”. The term “E-cigarette” carries the negative associations with tobacco cigarettes while “vaping” carries no similar stigma. The word “vape” is new and chic and was crowned as the word of the year by the Oxford Dictionary in 2014.<sup>2 3</sup> Vape pens are now the preferred e-cigarette for pot.

When water is heated it vaporizes as steam. Marijuana vaporization involves breathing vapor from marijuana that is heated to about 350-400°F. The vapor is inhaled into the lungs. Vaping is attractive because it allows the user to experience the effects of marijuana at far higher potency when marijuana extracts are used some with 90% THC.<sup>4</sup> Smoked marijuana is commonly around 10% THC. Three decades ago, THC concentrations were about 2%. When THC gets into the body as either smoke or vapor, or even when it is eaten, the THC enters the blood and is carried throughout the body including to the brain, the target organ for the high sought by drug users. The brain effects of THC are the same for smoked and vaped marijuana. The effects of THC in the brain are strongly affected by the rapidity of the intake (making smoking and vaping more effective at producing a high than eating) and by the dose. The drug use is much less detectable when the THC is vaped than when it is smoked because it lacks the characteristic smoke and odor.

Because virtually everyone is aware of the harmful effects of smoking cigarettes, and more people are becoming aware of the hazards of smoking marijuana, the switch to vaping has been celebrated as less harmful and, with the potential for the potency of THC to be higher, more rewarding. This has led to a dramatic increase in vaping and the emergence of higher dose vaping to create escalating highs and escalating risks from marijuana intoxication.

While vaping may appear to be a “safer” delivery for marijuana than smoking, the impairing effects of THC as well as the potential for addiction are significant. Marijuana vaping is not safe.

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<sup>1</sup> Center for Disease Control and Prevention. (2014, November 26). Adult cigarette smoking rate overall hits all-time low. Atlanta, GA: Centers for Disease Control and Prevention. Available: <http://www.cdc.gov/media/releases/2014/p1126-adult-smoking.html>.

<sup>2</sup> Oxford Dictionaries. (2014, November 18). VAPE is named Oxford Dictionaries Word of the Year 2014. *Oxford University Press*. Available: <http://blog.oxforddictionaries.com/press-releases/vape-named-oxford-dictionaries-word-year-2014/>.

<sup>3</sup> Caulkins, J. (2014, November 18). Vaping in the old tobacco and new marijuana industries. *Oxford University Press Blog*. Available: <http://blog.oup.com/2014/11/vaping-tobacco-marijuana-industry/>

<sup>4</sup> Bryan, M. (2014, April 18). Pot smoke and mirrors: vaporizer pens hide marijuana use. *National Public Radio*. Available: <http://www.npr.org/blogs/health/2014/04/18/302992602/pot-smoke-and-mirrors-vaporizer-pens-hide-marijuana-use>