Electromagnetic Waves, wireless transmission, mobile phone, radio waves, microwaves, AM/FM radio, television, antenna, radio interferometer, wireless communication, wireless technology.

Electronic Cigarettes

What are e-cigarettes?
E-cigarettes are battery-operated devices that allow users to inhale, or vape, aerosolized liquid (e-juice). The liquid usually contains nicotine, the highly addictive drug in regular cigarettes, flavorings, and other chemicals to make the aerosol. Users inhale this aerosol into their lungs.

What is in e-cigarette aerosol? More than just “water vapor”
- Nicotine
- Cancer causing chemicals
- Ultrafine particles
- Heavy metals including nickel, tin, lead
- Flavorings such as diacetyl, a chemical linked to serious lung disease
- Unstable organic compounds like benzene, which is found in car exhaust

What are the health effects?
**Nicotine:** Most e-cigarettes contain nicotine. Nicotine is a highly addictive drug that can harm adolescent brain development, which continues until 25 years old. Nicotine is also toxic to developing fetuses. No amount of nicotine is safe for youth.

**Metals:** Heavy metals such as lead and cadmium can cause respiratory distress and disease.

**Flavorings:** Chemicals that are known to cause cancer can be present in e-cigarette aerosol. The flavoring, diacetyl, has been linked to a serious and permanent lung disease called “popcorn lung”.

**Unknown:** More research on the long term health effects of e-cigarettes is still needed. For example, e-juice is made with propylene glycol and/or glycerin which are both generally recognized as safe by the Food and Drug Administration (FDA) for use in foods, but NOT for inhalation. The health effects of inhaling these substances are currently unknown. The FDA was set to start regulating e-cigarettes in 2018, but have pushed the timeline back until 2020. This is unsafe because of the unknown health effects of e-cigarettes and increased youth use.

Are e-cigarettes useful for quitting traditional cigarettes?
E-cigarettes have NOT been proven to help people quit smoking. There are seven FDA approved smoking quitting aids; e-cigarettes are not among them.

Who is using e-cigarettes?
In 2017, almost 20% of high schoolers in Minnesota reported using an e-cigarette within the previous 30 days. Across the United States more high schools students use e-cigarettes than regular cigarettes. Also, those who use e-cigarettes are four times more likely to start smoking cigarettes. Most adults who use e-cigarettes also smoke regular cigarettes, which is referred to as dual use.

Sources:
- E-cigarettes and Other Vaping Products. [http://www.health.state.mn.us/divs/hpcd/tpc/topics/ecigarettes.html](http://www.health.state.mn.us/divs/hpcd/tpc/topics/ecigarettes.html)
- Know the Risks: E-cigarettes and Young People. [https://e-cigarettes.surgeongeneral.gov/](https://e-cigarettes.surgeongeneral.gov/)
- For more information on NAMI Minnesota visit us at: [www.namimn.org](http://www.namimn.org)
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