WHAT ARE E-CIGARETTES?
Electronic cigarettes, also called electronic nicotine delivery systems (ENDS), are designed to mimic the size, shape, and use of a conventional cigarette. A battery powers a heater, or atomizer, that vaporizes a solution usually containing nicotine and flavor additives suspended in propylene glycol or glycerin. Many e-cigarettes are rechargeable and users purchase replacement cartridges or refill vials.

KEY POINTS:
• More than 400 e-cigarette brands are available for sale in the U.S.
• There have been no national prevalence studies. The Tobacco Vapor Electronic Cigarette Association claims there are 4 million users in the U.S. and an estimated $1 billion in sales annually.
• E-cigarette awareness among U.S. adults increased from 16.9% in 2009 to 32.2% in 2010 and ever use quadrupled.
• The U.S. Food and Drug Administration (FDA) has the authority to regulate e-cigarettes as tobacco products, but has not yet done so.
• E-cigarettes may undermine current prevention and cessation efforts by normalizing the action of ‘smoking’ or ‘vaping’, triggering relapse and encouraging initiation.
• FDA has not approved e-cigarettes as cessation devices. There are other proven safe and effective methods to quit smoking.

WHAT ARE THE RISKS?
There are limited independent published studies on the safety and risks of e-cigarettes. Some studies have indicated that:
• Quality control and labeling of nicotine levels is inaccurate, including detectable nicotine levels in “no nicotine” labeled e-cigarettes.
• Exhaled vapor is a mixture of water, propylene glycol and low levels of nicotine, tobacco specific nitrosamines, and other impurities. In one study, vapor did slightly increase particulate matter levels in indoor air.
• Metal and silicate particles have been found in cartomizer fluid and aerosol.
• One study showed increased short-term airway resistance after use of an e-cigarette.
• Some e-cigarette users refill their own cartridges. Exposure to dangerous concentrations of nicotine through skin contact, inhalation, or ingestion is a possible risk.
E-cigarette marketing emphasizes:

- Variety of attractive flavors
- Odorless, smokeless
- Social acceptance
- Cost savings
- Technological innovation
- Freedom to use anywhere

E-cigarettes are widely marketed on the internet, in television commercials, in magazine advertisements, and with celebrity endorsements.

Prices range from under $10 to $100 and up.

Not covered by health warning requirements and TV/radio commercial bans of cigarettes, cigars, and smokeless tobacco products.9

Disposable e-cigarettes, rechargeable kits, and refill cartridges are widely available for purchase on the internet, at mall kiosks, in convenience stores, and in some retail stores and tobacco shops.

U.S. tobacco companies are developing or purchasing e-cigarette brands - RJ Reynolds' VUSE, Altria's NuMark and Green Smoke, Lorillard's Blu, Swisher Sweets' e-swisher.10

OPPORTUNITIES FOR ACTION 11

- **EXPAND EXISTING SMOKE-FREE AIR LAWS TO INCLUDE E-CIGARETTES.** The U.S. Department of Transportation, Air Force, State of New Jersey, and King County of Washington State are among jurisdictions that have enacted rules restricting public use of e-cigarettes.

- **INCLUDE E-CIGARETTES IN YOUTH ACCESS RESTRICTIONS.** The States of California, New York, and others have banned the sale of e-cigarettes to minors. Other options to limit access are e-cigarette provisions in retail licenses and the enactment of full sales bans, as in the case of Australia, China, and Brazil.

- **REGULATE MARKETING OF E-CIGARETTES.** Local governments have an interest in protecting consumers from false and misleading claims about products for sale, including e-cigarettes. Enforcing existing advertising protections may reduce marketing exposure.

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12 Williams, M., Villarreal, A., Bozhilov, K., Talbot, P (2013). Metal and silicate particles including nanoparticles are present in electronic cigarette cartomizer fluid and aerosol. PLOS one. 8(3)e57987.