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Documentation of e-cigarette use and associations with smoking from 2012 to 2015 in an integrated healthcare delivery system.

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Abstract

It is unclear whether use of electronic nicotine delivery systems (ENDS) precedes cigarette smoking initiation, relapse, and/or quitting. Healthcare systems with electronic health records (EHRs) provide unique data to examine ENDS use and changes in smoking. We examined the incidence of ENDS use (2012-2015) based on clinician documentation and tested whether EHR documented ENDS use is associated with twelve-month changes in patient smoking status using a matched retrospective cohort design. The sample was Kaiser Permanente Northern California (KPNC) patients aged ≥ 12 with documented ENDS use ($N = 7926$); 57% were current smokers, 35% former smokers, and 8% never-smokers. ENDS documentation incidence peaked in 2014 for current and former smokers and in 2015 for never-smokers. We matched patients with documented ENDS use to KPNC patients without documented ENDS use ($N = 7926$) on age, sex, race/ethnicity, and smoking status. Documented ENDS use predicted the likelihood of smoking in the following year. Among current smokers, ENDS use was associated with greater odds of quitting smoking (OR = 1.17, 95%CI = 1.05-1.31). Among former smokers, ENDS use was associated with greater odds of smoking relapse (OR = 1.53, 95%CI = 1.22-1.92). Among never-smokers, ENDS use was associated with greater odds of initiating smoking (OR = 7.41, 95%CI = 3.14-17.5). The overall number of current smokers at 12 months was slightly higher among patients with ($N = 3931$) versus without ($N = 3850$) documented ENDS use. Results support both potential harm reduction of ENDS use (quitting combustibles among current smokers) and potential for harm (relapse to combustibles among former smokers, initiation for never-smokers).

KEYWORDS: Cigarettes; Clinician; EHR; ENDS; Electronic health record; Provider documentation; Smoking; Vaping; e-Cigarette

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