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Author manuscript

*Disabil Health J.* Author manuscript; available in PMC 2023 January 01.

Published in final edited form as:

*Disabil Health J.* 2022 January ; 15(1): 101182. doi:10.1016/j.dhjo.2021.101182.

## State-specific prevalence of current e-cigarette use by disability status and disability type—United States, BRFSS 2016–2018

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### Abstract

**Background:** Cigarette smoking is the leading cause of preventable disease and death in the United States. The tobacco product landscape has diversified to include electronic cigarettes (e-cigarettes). Adults with disabilities are more likely than adults without disabilities to smoke cigarettes, but within the current body of literature, there is limited information on the use of e-cigarettes among adults with disabilities.

**Objective:** To assess overall and state-specific prevalence of current e-cigarette use among adults by disability status, disability type, sex, and age.

**Methods:** Disability was defined as having serious difficulty with vision, hearing, mobility, cognition, or any difficulty with self-care or independent living. The Behavioral Risk Factor Surveillance System cross-sectional survey data (2016–2018;  $n = 1,150,775$ ) were used to estimate state and District of Columbia prevalence of current e-cigarette use among adults (aged  $\geq 18$  years) with and without disabilities, overall and by disability type, sex, and age group.

**Results:** Median prevalence of current e-cigarette use was higher among adults with than without disabilities (6.5% vs. 4.3%,  $P < 0.05$ ). Among adults with disabilities, use varied from 2.5% in DC to 10.0% in Colorado; median use was highest among those with cognitive disabilities (10.0%) and those aged 18–24 years (18.7%).

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Prior presentation

A draft form of the paper was presented as a poster presentation at the society for epidemiologic research 2020 annual meeting.

Declaration of competing interest

The authors have no conflicts of interest to report for this study.

**Conclusions:** Prevalence of current e-cigarette use was higher among adults with than without disabilities and varied across states by disability status, type, and age group. The findings underscore the need to monitor e-cigarette use among adults with disabilities and specifically include them in tobacco control policies and programs addressing e-cigarette use.

### Keywords

Disabilities; E-cigarettes; Surveillance; Adults; BRFSS

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### Introduction

Cigarette smoking is the leading cause of preventable disease and death in the United States.<sup>1</sup> While the prevalence of cigarette smoking has declined in the United States,<sup>2</sup> the tobacco product landscape has diversified to include a variety of tobacco products, including electronic cigarettes (e-cigarettes). E-cigarettes, also referred to as electronic vaping products and electronic nicotine delivery systems, are battery-powered devices designed to deliver nicotine, flavorings, and other additives to the user via an inhaled aerosol.<sup>3</sup> In August 2016, the regulatory authority of the Food and Drug Administration was extended to cover e-cigarettes through the agency's "Deeming rule."<sup>4</sup> The long-term effects of e-cigarette use remain uncertain, but nicotine exposure can harm the developing brain, impact learning, memory, and attention, and increase risk for future addiction to other drugs.<sup>5</sup> E-cigarette aerosols contain toxins that can affect health.<sup>6,7</sup> E-cigarette use has been associated with increased risk of oral diseases,<sup>8</sup> asthma, chronic obstructive pulmonary disease,<sup>9–12</sup> prediabetes,<sup>13</sup> and depression.<sup>14</sup> E-cigarette use varies by a number of demographics, including age, sex, and race/ethnicity.<sup>15</sup> Although e-cigarette use is more common among young adults than older adults,<sup>15,16</sup> recent increases in the use of e-cigarettes in the United States have been reported in various populations,<sup>17–19</sup>

Cigarette smoking in the United States varies by state, sex, age group, and other factors,<sup>15,20</sup> and it is higher among certain populations, including adults with disabilities. People with disabilities include those who have serious difficulty with vision, hearing, mobility, cognition, or any difficulty with self-care or independent living. Adults with disabilities represent nearly 26% (about 61 million persons) of the US adult population.<sup>21</sup> Previous studies have found that adults with disabilities are more likely to smoke cigarettes than the general population, particularly adults with mild intellectual disability,<sup>22</sup> pregnant women,<sup>23</sup> and men.<sup>21,24–27</sup>

Within the current body of literature, there is limited research on the use of e-cigarettes among adults with disabilities. Gimm et al. reported adults with cognitive disabilities and independent living disabilities had more than twice the prevalence of e-cigarette use compared to adults without disabilities.<sup>19</sup> Among young adults who had never smoked cigarettes, Atuegwu et al. reported a higher odds of e-cigarette use among those with vision disability, cognitive disability, independent living disability, and self-care disability compared to those without disability.<sup>28</sup> Du et al. reported increased odds of e-cigarette use among people with disabilities in one large US metropolitan area, as well as among women with disabilities compared to women without disabilities.<sup>29</sup> Given this limited information

about e-cigarette use among adults with disabilities, whether they mirror the disparities (e.g., age and sex) seen in use among all adults, and the emerging evidence that e-cigarettes pose a public health risk,<sup>30</sup> we undertook this study to identify the overall and state-specific prevalence of current e-cigarette use among adults by disability status, disability type, sex, and age group. The results are intended to inform US tobacco policy considerations and public health programmatic efforts.

## Methods

### Study sample

We used data from the 2016–2018 Behavioral Risk Factor Surveillance System (BRFSS),<sup>31</sup> a random digit dialed, state-based, annual telephone (landline and cellular) cross-sectional survey of the noninstitutionalized civilian population aged 18 years, conducted in 50 states and the District of Columbia (DC). The BRFSS is designed to provide information on behaviors, risk factors, and use of clinical preventive services related to the leading causes of chronic and infectious diseases, disability, injury, and death. The median survey response rates for all states and DC were 47.0% in 2016, 45.1% in 2017, and 49.9% in 2018. Detailed information about the BRFSS survey design, methods, and questionnaire are available elsewhere.<sup>31</sup>

A total of 1,228,029 respondents from all 50 states and DC completed the BRFSS survey, which included 477,665 in 2016, 444,023 in 2017, and 306,341 in 2018. In 2016 and 2017, e-cigarette questions were asked of respondents in all 50 states and DC, while in 2018, the e-cigarette questions were an optional module and asked in only 36 states. Our final pooled analytic sample for 2016–2018 (all states and DC in 2016–2017 and 36 states in 2018) included 1,150,775 respondents after excluding 77,254 respondents with missing information on disability status ( $n = 47,440$ ), sex ( $n = 1,040$ ), or current e-cigarette use ( $n = 28,774$ ).

### Disability definition

During 2016–2018, the BRFSS survey measured six disability types using the following survey questions<sup>32</sup>: 1) “Are you deaf or do you have serious difficulty hearing?” (hearing disability); 2) “Are you blind or do you have serious difficulty seeing, even wearing glasses?” (vision disability); 3) “Because of a physical, mental, or emotional condition, do you have serious difficulty concentrating, remembering or making decisions?” (cognitive disability); 4) “Do you have serious difficulty walking or climbing stairs?” (mobility disability); 5) “Do you have difficulty dressing or bathing?” (self-care disability); and 6) “Because of physical, mental or emotional conditions, do you have difficulties doing errands alone, such as visiting a doctor’s office or shopping?” (independent living disability). Respondents were identified as having a specific disability type if they answered “yes” to the relevant question. Respondents who responded “yes” to at least one disability question were identified as having a disability. Respondents who responded “no” to all six questions were identified as having no disability. Missing responses and respondents who answered “don’t know” or who declined to answer were excluded. For the 2016–2018 study sample, 345,292

respondents reported having one or more disabilities, 805,483 reported no disability, and the median prevalence of adults with any disability across all 50 states and DC was 25.5%.

### E-cigarette use definition

All respondents were asked, “Do you now use e-cigarettes or other electronic “vaping” products every day, some days, or not at all?” Those who responded “every day” or “some days” were identified as being current e-cigarette users. Those who responded “not at all” were identified as not being current e-cigarette users.

### Statistical analysis

Analyses were conducted using SAS callable SUDAAN software (v. 9.4, Research Triangle Institute, Research Triangle Park, NC)<sup>33</sup> to account for the complex survey sampling design. All analyses used weighted data to yield state-representative estimates while considering the probability of selection and adjusting for nonresponse bias and noncoverage errors. The weights were adjusted according to the number of years of data that were included. For each state, weighted prevalence estimates and corresponding 95% confidence intervals were calculated for current e-cigarette use overall and by disability status and type. Estimates with a relative standard error > 30% were suppressed due to instability of the estimate. Estimates were calculated for the prevalence of current e-cigarette use by sex (male, female) and age group (18–24, 25–44, 45–64, and ≥ 65 years). The chi-square test was used to assess statistically significant differences between disability status, disability types, and sex groups, and Mood’s median test was used to assess median differences by overall disability status. Statistical inferences were based on a significance level of  $P < 0.05$ .

### Results

Table 1 shows state-specific prevalences of current e-cigarette use by disability status. Across all 50 states and DC, the median prevalence of current e-cigarette use was significantly higher among adults with disabilities compared to adults without disabilities (6.5% vs. 4.3%  $P < 0.05$ ). The prevalence of current e-cigarette use among adults with disabilities ranged from 2.5% in DC to 10.0% in Colorado, and was significantly higher among adults with disabilities compared to adults without disabilities in 46 states ( $P < 0.05$ ). In the other 4 states and DC, the prevalence of current e-cigarette use was still higher among adults with disabilities than without disabilities, although the differences were not statistically significant.

Table 2 shows state-specific prevalences of current e-cigarette use by disability type. The highest median prevalence of current e-cigarette use was among adults with cognitive disability at 10.0%, ranging from 3.0% in DC to 16.0% in Colorado, and the lowest among adults with hearing disability (4.3%), ranging from 2.7% in Connecticut to 8.4% in Idaho. Compared to adults without cognitive disabilities, the prevalence of current e-cigarette use was significantly higher among adults with cognitive disability in all 50 states, but not in DC. For the other disability types, stable prevalence estimates could be obtained for most but not all states and DC. Therefore, in states with stable estimates, among adults with a particular disability type, compared to adults without the corresponding disability

type, current e-cigarette use was significantly higher among adults with independent living disability in 41 of 50 states, self-care disability in 20 of 48 states, vision disability in 12 of 46 states, and mobility disability in 7 of 50 states and DC. Conversely, the prevalence of current e-cigarette use was significantly lower among adults with hearing disability than those with no hearing disability in 12 of 44 states.

Our analysis of current e-cigarette use by sex and disability status confirmed previous reports in the literature.<sup>15,20</sup> The median prevalence of current e-cigarette use was significantly higher among men with disabilities compared to men without disabilities (7.3% vs. 5.5%, data not shown) and among women with disabilities compared to women without disabilities (6.2% vs. 3.0%, data not shown). Also, among adults with disabilities, current e-cigarette use was significantly higher among men compared to women (7.3% vs. 6.2%, data not shown).

Table 3 shows current e-cigarette use by age group and disability status. The median prevalence of current e-cigarette use was 2-fold higher among adults with disabilities than those without disabilities in each age group. Prevalence of current e-cigarette use was highest in the youngest age group (18–24 years) and decreased with increasing age among both adults with and without any disability. Notably, among young adults aged 18–24 years, the median prevalence of current e-cigarette use was 18.7% among those with disabilities (ranging from 11.8% in Maryland and Missouri to 29.6% in Maine) compared to 9.5% among those without disabilities (ranging from 5.5% in DC to 14.5% in Wyoming). The median prevalence of current e-cigarette use among adults with disabilities aged 25–44 years was 11.5% (ranging from 6.7% in California to 17.6% in Wyoming) compared to 5.2% among adults without disabilities (ranging from 2.4% in DC to 6.9% in Oklahoma).

## Discussion

While only an estimated one-quarter (25.5%) of the U.S adult population had at least one disability in 2016–2018, over one-third (36.4%, data not shown) of current e-cigarette users had at least one disability. To our knowledge, this paper is the first to report results of a US nationwide representative analysis of overall and state-specific prevalence estimates of current e-cigarette use among adults with disabilities. During 2016–2018 current e-cigarette use varied by state, with the highest estimates occurring among adults with disabilities in Colorado (10.0%), Wyoming (8.7%), and Oklahoma (8.7%), and the lowest estimates occurring in DC (2.5%), California (4.0%), South Dakota (4.8%), and Vermont (4.8%).

State-specific disparities in the prevalence of current e-cigarette use among people with specific type of disability are not fully understood. Studies show that potential factors include influential interactions and exposures (e.g., with caregivers who smoke), permissive tobacco policies in day rehabilitation programs that serve people with disabilities,<sup>34,35</sup> limited evidence-based tobacco interventions specifically targeting people with disabilities (e.g., Living Independent From Tobacco),<sup>36,37</sup> and low prevalence of tobacco use screening during primary care visits among people with disabilities.<sup>38,39</sup> In addition, state-level differences, particularly among younger adults, could potentially be related to state laws prohibiting tobacco sales to persons aged 21 or younger, state laws regarding e-cigarettes in

indoor public spaces and taxation of e-cigarettes.<sup>40,41</sup> Future studies may help determine the factors that are most closely associated with the prevalence of current e-cigarette use among people with disabilities, thus informing the development of more effective evidenced-based tobacco interventions specifically targeting this population.

We noted that by disability type, current e-cigarette use among adults with cognitive disabilities was 10.0%, over 2.4-fold higher than adults without cognitive disabilities (4.2%, data not shown). This is consistent with prior studies that suggest that respondents reporting “yes” to the cognitive disability question may also include people with mental health conditions.<sup>42</sup> Prior studies have reported higher estimates of e-cigarette use among adults with serious psychological distress (9.7%) than among those without (3.2%)<sup>43</sup> and among adults with any mental health condition (11.4%) compared to those without (6.6%).<sup>44</sup> We also found that higher e-cigarette use among individuals with independent living, self-care, and vision disabilities is consistent with previous reports;<sup>19,45</sup> the reasons behind these differences are unclear, so further work might help improve our understanding of these disparities.

The finding of current e-cigarette use among adults with and without disabilities by age—highest among younger adults and lowest among older adults—is consistent with that observed in studies of adults in general.<sup>5,46</sup> Moreover, current e-cigarette use among adults with disabilities was 2-fold higher than among adults without disabilities across all age groups. The higher prevalence among young adults (aged 18–24 years) with a disability is important to address from a public health perspective, given that most e-cigarettes contain nicotine, a highly addictive substance. Nicotine can harm normal brain development, which is ongoing through the mid-20s.<sup>5,47,48</sup> E-cigarettes are a relatively new product class and their long-term health effects are not yet fully known.<sup>5</sup> Physicians and caregivers need to be aware of the increased potential of e-cigarette use in young adults with disabilities and should routinely screen for this in order to provide effective cessation counseling for this population.<sup>45</sup>

Studies in the literature assessing tobacco use and disability status are limited at a population level and generally focus on cigarette smoking.<sup>25–27,43,49</sup> In general, studies have shown that cigarette smoking prevalence is approximately 50% higher among adults with disabilities compared to those without.<sup>26,43</sup> Our findings that current e-cigarette use is two-fold higher among adults with disabilities compared to those without for each age group could, in part, be attributed to people with disabilities having higher cigarette smoking prevalence. That is, people with disabilities might use e-cigarettes as substitutes or complements to conventional cigarettes.<sup>50,51</sup> To assess the concurrent use of e-cigarettes and other tobacco products was beyond the scope of this study and, perhaps, a direction for future work.

The findings in this report are subject to at least six limitations. First, BRFSS is administered to noninstitutionalized adults and excludes persons living in long-term care facilities who may be more likely to have a disability and may be more impaired. Second, BRFSS does not reach about 3.5% of adults in the United States because they do not possess either wireless or landline telephone service,<sup>52</sup> so results may not be representative of people without wireless or landline phone service. Third, disability estimates are likely underestimated



because questions used to assess hearing, vision, cognition, and mobility disability were designed to capture a serious difficulty; thus, adults with milder difficulties might not be identified and might be subject to misclassification bias. Fourth, data might be subject to non-response biases because the median state response rates ranged from 25.1% to 60.1%. Even after adjusting for nonresponse, low response rates can increase the potential for bias if there are systematic differences between respondents and non-respondents;<sup>53</sup> however, BRFSS has been shown to be valid and reliable.<sup>54</sup> Fifth, it is beyond the scope of this study to explain how social factors may influence state-level differences in e-cigarette use among adults with disabilities. This is a potential direction for future work. Finally, survey data on e-cigarette use were available for only 36 states in 2018, potentially limiting interstate comparability. However, we tested the sensitivity of our findings by limiting the analysis to 2016–17 data for all 50 states and DC and found the results to be consistent.

## Conclusions

This paper showed that the median prevalence of current e-cigarette use was higher among US adults with than without disabilities, although with variation across states by disability status, type, and age group. The higher prevalence of current e-cigarette use among adults with disabilities underscores the need for inclusion of people with disabilities into public health activities that monitor and address their use of tobacco products. The findings from this report reinforce the need to support evidence-based programs to prevent youth and young adults with disabilities from initiating and using tobacco in any form, including e-cigarettes.

## Acknowledgments

The authors would like to thank Teresa Wang (CDC) for her constructive suggestions at the beginning of the project, as well as Eric Carbone (CDC) and Renee Stein (CDC) for their administrative support and guidance. The authors also would like to acknowledge the State BRFSS coordinators, CDC Population Health Surveillance Branch, Division of Population Health, and CDC Disability and Health Branch, Division of Human Development and Disability.

## Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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Table 1

State-specific prevalence of current e-cigarette use<sup>a</sup> by disability status<sup>b</sup> among adults aged 18 years or older—Behavioral Risk Factor Surveillance System, United States, 2016–2018.

State	Sample size	Current e-cigarette users		
		Total % (95% CI)	Non-disability % (95% CI)	Any disability % (95% CI)
All 50 states and District of Columbia, Median	1,150,775	4.8 (4.4, 5.2)	4.3 (3.8, 5.0)	6.5 (5.5, 7.6) <sup>d</sup>
Alabama <sup>c</sup>	13,105	5.0 (4.5, 5.6)	4.6 (3.9, 5.4)	5.8 (4.9, 6.7)
Alaska	8,371	4.5 (3.8, 5.4)	3.9 (3.2, 4.9)	6.6 (5.0, 8.6) <sup>d</sup>
Arizona <sup>c</sup>	24,905	5.2 (4.8, 5.7)	4.6 (4.1, 5.2)	7.0 (6.0, 8.1) <sup>d</sup>
Arkansas	14,922	6.1 (5.4, 7.0)	5.5 (4.6, 6.6)	7.2 (6.1, 8.5) <sup>d</sup>
California <sup>c</sup>	18,759	3.1 (2.8, 3.4)	2.9 (2.5, 3.2)	4.0 (3.3, 4.7) <sup>d</sup>
Colorado	25,794	6.0 (5.5, 6.5)	5.0 (4.5, 5.6)	10.0 (8.7, 11.4) <sup>d</sup>
Connecticut	30,515	4.3 (3.9, 4.7)	3.7 (3.3, 4.2)	6.3 (5.4, 7.3) <sup>d</sup>
Delaware	12,675	4.6 (4.0, 5.1)	3.4 (2.9, 4.0)	7.5 (6.3, 9.0) <sup>d</sup>
District of Columbia <sup>c</sup>	7,477	2.3 (1.9, 2.9)	2.3 (1.8, 3.0)	2.5 (1.8, 3.5)
Florida	68,330	4.9 (4.5, 5.3)	4.4 (4.0, 4.9)	6.1 (5.4, 6.8) <sup>d</sup>
Georgia	18,402	4.8 (4.4, 5.3)	4.4 (3.9, 4.9)	6.0 (5.2, 6.9) <sup>d</sup>
Hawaii	22,262	5.3 (4.9, 5.8)	5.1 (4.6, 5.6)	6.2 (5.3, 7.2)
Idaho	12,919	5.0 (4.4, 5.7)	3.9 (3.3, 4.6)	8.4 (6.8, 10.4) <sup>d</sup>
Illinois <sup>c</sup>	9,880	4.3 (3.8, 5.0)	3.6 (3.0, 4.2)	7.1 (5.6, 8.9) <sup>d</sup>
Indiana	30,558	5.8 (5.4, 6.2)	5.2 (4.8, 5.8)	7.4 (6.5, 8.3) <sup>d</sup>
Iowa	22,423	4.5 (4.2, 4.9)	3.7 (3.4, 4.1)	7.1 (6.2, 8.1) <sup>d</sup>
Kansas	36,982	5.0 (4.6, 5.4)	4.3 (3.9, 4.7)	7.2 (6.3, 8.1) <sup>d</sup>
Kentucky <sup>c</sup>	18,253	5.9 (5.3, 6.5)	5.2 (4.5, 6.0)	7.1 (6.1, 8.2) <sup>d</sup>

State	Sample size	Current e-cigarette users			
		Total		Non-disability	
		% (95% CI)	% (95% CI)	% (95% CI)	Any disability % (95% CI)
Louisiana	13,846	5.4 (4.8, 6.0)	5.0 (4.4, 5.8)	6.1 (5.1, 7.3)	6.1 (5.1, 7.3)
Maine	23,683	4.4 (3.9, 5.0)	3.3 (2.8, 3.9)	7.6 (6.3, 9.2) <sup>d</sup>	7.6 (6.3, 9.2) <sup>d</sup>
Maryland	45,880	3.6 (3.3, 3.9)	3.0 (2.7, 3.4)	5.5 (4.8, 6.4) <sup>d</sup>	5.5 (4.8, 6.4) <sup>d</sup>
Massachusetts	20,383	4.3 (3.9, 4.8)	3.7 (3.2, 4.2)	6.4 (5.4, 7.6) <sup>d</sup>	6.4 (5.4, 7.6) <sup>d</sup>
Michigan	28,350	5.3 (4.9, 5.7)	4.6 (4.1, 5.0)	6.9 (6.2, 7.8) <sup>d</sup>	6.9 (6.2, 7.8) <sup>d</sup>
Minnesota	48,009	4.1 (3.9, 4.4)	3.7 (3.5, 4.0)	5.5 (5.0, 6.2) <sup>d</sup>	5.5 (5.0, 6.2) <sup>d</sup>
Mississippi	15,158	5.1 (4.5, 5.7)	4.5 (3.9, 5.2)	6.1 (5.2, 7.2) <sup>d</sup>	6.1 (5.2, 7.2) <sup>d</sup>
Missouri	19,678	5.1 (4.7, 5.7)	4.6 (4.0, 5.2)	6.5 (5.5, 7.6) <sup>d</sup>	6.5 (5.5, 7.6) <sup>d</sup>
Montana	16,490	4.2 (3.7, 4.7)	3.5 (3.0, 4.1)	5.8 (4.8, 6.9) <sup>d</sup>	5.8 (4.8, 6.9) <sup>d</sup>
Nebraska	43,351	4.8 (4.4, 5.2)	4.4 (4.0, 4.8)	6.2 (5.4, 7.2) <sup>d</sup>	6.2 (5.4, 7.2) <sup>d</sup>
Nevada <sup>c</sup>	7,833	5.8 (5.0, 6.6)	5.2 (4.3, 6.3)	7.2 (5.7, 8.9) <sup>d</sup>	7.2 (5.7, 8.9) <sup>d</sup>
New Hampshire	17,014	4.8 (4.2, 5.4)	3.9 (3.3, 4.7)	7.4 (6.2, 8.9) <sup>d</sup>	7.4 (6.2, 8.9) <sup>d</sup>
New Jersey <sup>c</sup>	18,420	4.1 (3.6, 4.7)	3.3 (2.8, 3.9)	6.3 (5.1, 7.7) <sup>d</sup>	6.3 (5.1, 7.7) <sup>d</sup>
New Mexico <sup>c</sup>	11,962	4.9 (4.2, 5.6)	4.4 (3.6, 5.3)	6.1 (4.8, 7.6) <sup>d</sup>	6.1 (4.8, 7.6) <sup>d</sup>
New York	76,171	4.4 (4.1, 4.7)	4.1 (3.8, 4.4)	5.5 (4.9, 6.2) <sup>d</sup>	5.5 (4.9, 6.2) <sup>d</sup>
North Carolina	14,773	4.7 (4.2, 5.2)	4.2 (3.7, 4.8)	5.8 (4.9, 7.0) <sup>d</sup>	5.8 (4.9, 7.0) <sup>d</sup>
North Dakota	17,438	4.7 (4.2, 5.3)	4.3 (3.8, 5.0)	6.1 (4.9, 7.6) <sup>d</sup>	6.1 (4.9, 7.6) <sup>d</sup>
Ohio	35,346	5.5 (5.1, 5.9)	4.7 (4.3, 5.2)	7.4 (6.5, 8.3) <sup>d</sup>	7.4 (6.5, 8.3) <sup>d</sup>
Oklahoma <sup>c</sup>	12,900	6.8 (6.2, 7.6)	5.9 (5.2, 6.8)	8.7 (7.5, 10.0) <sup>d</sup>	8.7 (7.5, 10.0) <sup>d</sup>
Oregon	15,029	4.7 (4.3, 5.2)	3.9 (3.5, 4.4)	7.0 (6.0, 8.1) <sup>d</sup>	7.0 (6.0, 8.1) <sup>d</sup>
Pennsylvania <sup>c</sup>	12,843	4.4 (3.9, 4.9)	3.4 (3.0, 3.9)	7.4 (6.2, 8.7) <sup>d</sup>	7.4 (6.2, 8.7) <sup>d</sup>
Rhode Island	15,737	5.0 (4.4, 5.6)	4.3 (3.7, 5.0)	6.9 (5.7, 8.3) <sup>d</sup>	6.9 (5.7, 8.3) <sup>d</sup>

State	Sample size	Current e-cigarette users			
		Total	Non-disability	Any disability	
		% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
South Carolina <sup>c</sup>	21,502	4.4 (4.0, 4.9)	4.1 (3.6, 4.7)	5.1 (4.4, 6.0) <sup>d</sup>	
South Dakota	18,950	3.8 (3.2, 4.5)	3.5 (2.8, 4.3)	4.8 (3.6, 6.5)	
Tennessee	15,649	5.7 (5.2, 6.3)	5.0 (4.4, 5.8)	7.1 (6.1, 8.2) <sup>d</sup>	
Texas	31,996	4.8 (4.4, 5.4)	4.4 (3.9, 5.1)	6.0 (5.0, 7.2) <sup>d</sup>	
Utah	30,325	5.4 (5.0, 5.7)	4.6 (4.2, 5.0)	8.1 (7.2, 9.1) <sup>d</sup>	
Vermont <sup>c</sup>	12,381	3.2(2.7, 3.8)	2.7 (2.2, 3.4)	4.8 (3.6, 6.4) <sup>d</sup>	
Virginia	26,897	4.9 (4.5, 5.3)	4.4 (4.0, 4.9)	6.5 (5.6, 7.4) <sup>d</sup>	
Washington <sup>c</sup>	26,229	4.8 (4.4, 5.2)	3.8 (3.4, 4.2)	7.9 (7.0, 9.0) <sup>d</sup>	
West Virginia <sup>c</sup>	12,365	5.2 (4.6, 5.7)	4.5 (3.9, 5.3)	6.1 (5.2, 7.1) <sup>d</sup>	
Wisconsin	14,759	4.8 (4.3, 5.4)	4.1 (3.6, 4.7)	7.0 (5.8, 8.5) <sup>d</sup>	
Wyoming	12,896	5.8 (5.2, 6.5)	4.8 (4.1, 5.5)	8.7 (7.4, 10.3) <sup>d</sup>	

Notes: All estimates are weighted according to BRFSS sampling methodology. CI: confidence interval.

<sup>a</sup> Current e-cigarette user includes persons aged 18 years who reported currently using e-cigarettes every day or some days at the time of the survey. Excludes respondents with an unknown use status.

<sup>b</sup> Any disability includes persons aged 18 years who reported having serious difficulty with vision, hearing, mobility, cognition, self-care, or independent living. Excludes respondents whose disability status was unknown.

<sup>c</sup> Includes only 2016 and 2017 data because the jurisdiction did not participate in the 2018 survey.

<sup>d</sup>  $P < 0.05$  for the prevalence of current e-cigarette users among adults with disabilities compared to current e-cigarette users among adults without disabilities.

Table 2

State-specific prevalence of current e-cigarette use<sup>a</sup> among adults aged 18 years or older, by disability type<sup>b</sup>—Behavioral Risk Factor Surveillance System, United States, 2016–2018.

State	Any disability	Hearing	Vision	Cognition	Mobility	Self-care	Independent living
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
All 50 states and District of Columbia, Median	6.5 (5.5, 7.6) <sup>d</sup>	4.3 (3.1, 5.9)	6.7 (4.2, 10.5) <sup>d</sup>	10.0 (8.0, 12.4) <sup>d</sup>	5.3 (4.3, 6.4) <sup>d</sup>	7.0 (5.2, 9.3) <sup>d</sup>	8.5 (5.2, 13.8) <sup>d</sup>
Alabama <sup>c</sup>	5.8 (4.9, 6.7)	4.9 (3.3, 7.1)	7.0 (5.0, 9.7)	7.8 (6.4, 9.6) <sup>d</sup>	5.3 (4.3, 6.4)	4.4 (3.1, 6.3)	7.2 (5.5, 9.3) <sup>d</sup>
Alaska	6.6 (5.0, 8.6) <sup>d</sup>	—	—	11.4 (8.2, 15.7) <sup>d</sup>	4.0 (2.7, 5.9)	—	8.5 (5.2, 13.8)
Arizona <sup>c</sup>	7.0 (6.0, 8.1) <sup>d</sup>	5.2 (3.6, 7.4)	5.4 (3.8, 7.6)	11.2 (9.3, 13.5) <sup>d</sup>	5.4 (4.4, 6.6)	8.6 (6.1, 11.9) <sup>d</sup>	10.2 (8.0, 12.9) <sup>d</sup>
Arkansas	7.2 (6.1, 8.5) <sup>d</sup>	5.3 (3.6, 7.8)	5.9 (3.9, 8.8)	9.9 (7.9, 12.3) <sup>d</sup>	6.7 (5.4, 8.3)	9.6 (6.7, 13.5) <sup>d</sup>	9.1 (7.0, 11.8) <sup>d</sup>
California <sup>c</sup>	4.0 (3.3, 4.7) <sup>d</sup>	—	4.1 (2.8, 6.2)	6.4 (5.1, 7.9) <sup>d</sup>	2.4 (1.8, 3.2) <sup>d</sup>	3.8 (2.4, 5.9)	4.4 (3.1, 6.2)
Colorado	10.0 (8.7, 11.4) <sup>d</sup>	5.7 (4.1, 7.9)	9.3 (6.7, 12.8) <sup>d</sup>	16.0 (13.5, 18.8) <sup>d</sup>	6.9 (5.5, 8.7)	11.7 (8.1, 16.6) <sup>d</sup>	11.7 (9.1, 15.0) <sup>d</sup>
Connecticut	6.3 (5.4, 7.3) <sup>d</sup>	2.7 (1.9, 3.9) <sup>e</sup>	5.8 (4.0, 8.3)	11.3 (9.4, 13.6) <sup>d</sup>	4.1 (3.2, 5.2)	5.4 (3.9, 7.6)	9.8 (7.7, 12.4) <sup>d</sup>
Delaware	7.5 (6.3, 9.0) <sup>d</sup>	5.9 (3.9, 8.9)	9.2 (6.1, 13.8) <sup>d</sup>	10.6 (8.4, 13.3) <sup>d</sup>	5.8 (4.4, 7.6)	7.7 (4.8, 12.1)	7.8 (5.4, 11.0) <sup>d</sup>
District of Columbia <sup>c</sup>	2.5 (1.8, 3.5)	—	—	3.0 (1.9, 4.8)	2.4 (1.5, 3.8)	—	—
Florida	6.1 (5.4, 6.8) <sup>d</sup>	2.8 (2.2, 3.5) <sup>e</sup>	5.2 (3.9, 6.9)	9.3 (8.0, 10.8) <sup>d</sup>	5.5 (4.8, 6.4)	8.0 (6.0, 10.5) <sup>d</sup>	8.9 (7.2, 10.9) <sup>d</sup>
Georgia	6.0 (5.2, 6.9) <sup>d</sup>	4.1 (3.0, 5.8)	4.1 (2.9, 5.8)	9.4 (7.9, 11.2) <sup>d</sup>	4.8 (3.9, 5.9)	6.1 (4.2, 8.7)	8.1 (6.3, 10.3) <sup>d</sup>
Hawaii	6.2 (5.3, 7.2)	5.1 (3.6, 7.1)	7.2 (5.3, 9.8)	8.2 (6.6, 10.2) <sup>d</sup>	4.4 (3.5, 5.6)	6.8 (4.5, 10.2)	8.4 (6.3, 11.2) <sup>d</sup>
Idaho	8.4 (6.8, 10.4) <sup>d</sup>	8.4 (4.7, 14.4)	—	12.3 (9.2, 16.4) <sup>d</sup>	6.2 (4.7, 8.3)	6.9 (3.9, 11.8)	10.4 (6.5, 16.2) <sup>d</sup>
Illinois <sup>c</sup>	7.1 (5.6, 8.9) <sup>d</sup>	—	5.3 (3.2, 8.8)	11.2 (8.3, 15.0) <sup>d</sup>	6.9 (5.0, 9.5) <sup>d</sup>	6.7 (3.8, 11.6)	9.2 (6.5, 13.0) <sup>d</sup>
Indiana	7.4 (6.5, 8.3) <sup>d</sup>	4.9 (3.6, 6.5)	6.0 (4.6, 7.8)	12.1 (10.5, 14.0) <sup>d</sup>	6.2 (5.3, 7.3)	7.4 (5.6, 9.7)	10.0 (8.2, 12.1) <sup>d</sup>
Iowa	7.1 (6.2, 8.1) <sup>d</sup>	4.2 (3.1, 5.7)	7.2 (5.1, 10.2) <sup>d</sup>	11.6 (9.8, 13.8) <sup>d</sup>	5.3 (4.3, 6.5)	7.4 (5.0, 10.9) <sup>d</sup>	10.2 (7.9, 13.0) <sup>d</sup>
Kansas	7.2 (6.3, 8.1) <sup>d</sup>	5.3 (3.9, 7.2)	6.3 (4.7, 8.5)	11.3 (9.6, 13.3) <sup>d</sup>	5.5 (4.6, 6.6)	7.0 (5.2, 9.3)	8.3 (6.7, 10.3) <sup>d</sup>
Kentucky <sup>c</sup>	7.1 (6.1, 8.2) <sup>d</sup>	5.9 (4.3, 7.9)	8.0 (6.1, 10.4) <sup>d</sup>	8.6 (7.2, 10.2) <sup>d</sup>	6.9 (5.5, 8.6)	6.3 (4.6, 8.5)	6.8 (5.3, 8.7)
Louisiana	6.1 (5.1, 7.3)	3.7 (2.5, 5.5) <sup>e</sup>	4.7 (2.9, 7.4)	8.4 (6.8, 10.5) <sup>d</sup>	4.9 (3.8, 6.4)	5.3 (3.3, 8.4)	6.0 (4.5, 8.0)



State	Any disability % (95% CI)	Hearing % (95% CI)	Vision % (95% CI)	Cognition % (95% CI)	Mobility % (95% CI)	Self-care % (95% CI)	Independent living % (95% CI)
Maine	7.6 (6.3, 9.2) <sup>d</sup>	3.0 (2.0, 4.5) <sup>e</sup>	7.7 (4.6, 12.7)	11.9 (9.4, 14.9) <sup>d</sup>	5.9 (4.4, 7.9)	10.7 (6.9, 16.0) <sup>d</sup>	10.8 (8.4, 13.7) <sup>d</sup>
Maryland	5.5 (4.8, 6.4) <sup>d</sup>	3.3 (2.2, 5.0)	4.6 (3.0, 7.1)	9.0 (7.5, 10.9) <sup>d</sup>	4.5 (3.7, 5.4) <sup>d</sup>	5.7 (3.9, 8.1) <sup>d</sup>	6.0 (4.8, 7.6) <sup>d</sup>
Massachusetts	6.4 (5.4, 7.6) <sup>d</sup>	4.9 (3.1, 7.6)	8.8 (5.8, 13.1) <sup>d</sup>	8.9 (7.2, 10.9) <sup>d</sup>	5.7 (4.3, 7.4)	8.0 (5.4, 11.7) <sup>d</sup>	7.6 (5.7, 10.1) <sup>d</sup>
Michigan	6.9 (6.2, 7.8) <sup>d</sup>	4.1 (3.0, 5.6)	7.4 (5.6, 9.8) <sup>d</sup>	9.9 (8.6, 11.5) <sup>d</sup>	4.9 (4.2, 5.9)	5.3 (3.9, 7.2)	8.0 (6.5, 9.9) <sup>d</sup>
Minnesota	5.5 (5.0, 6.2) <sup>d</sup>	3.2 (2.5, 4.0) <sup>e</sup>	4.6 (3.4, 6.0)	9.2 (8.1, 10.5) <sup>d</sup>	4.5 (3.7, 5.4)	6.5 (4.7, 8.8) <sup>d</sup>	8.2 (6.7, 10.0) <sup>d</sup>
Mississippi	6.1 (5.2, 7.2) <sup>d</sup>	3.9 (2.7, 5.4)	5.8 (4.1, 8.0)	9.3 (7.6, 11.3) <sup>d</sup>	4.4 (3.5, 5.5)	5.4 (3.8, 7.6)	6.4 (4.9, 8.4)
Missouri	6.5 (5.5, 7.6) <sup>d</sup>	5.2 (3.7, 7.3)	7.3 (5.0, 10.7)	10.0 (8.2, 12.2) <sup>d</sup>	6.3 (5.0, 7.8)	9.1 (6.5, 12.7) <sup>d</sup>	8.6 (6.7, 11.0) <sup>d</sup>
Montana	5.8 (4.8, 6.9) <sup>d</sup>	3.8 (2.7, 5.4)	7.0 (4.7, 10.2) <sup>d</sup>	9.3 (7.4, 11.8) <sup>d</sup>	4.6 (3.5, 6.0)	8.4 (5.5, 12.5) <sup>d</sup>	7.4 (5.3, 10.0) <sup>d</sup>
Nebraska	6.2 (5.4, 7.2) <sup>d</sup>	3.6 (2.6, 4.8) <sup>e</sup>	4.4 (3.1, 6.3)	10.7 (8.9, 12.8) <sup>d</sup>	4.5 (3.7, 5.5)	6.7 (4.6, 9.9)	9.5 (7.6, 12.0) <sup>d</sup>
Nevada <sup>c</sup>	7.2 (5.7, 8.9) <sup>d</sup>	6.6 (4.5, 9.4)	6.2 (3.7, 10.1)	10.8 (8.1, 14.3) <sup>d</sup>	5.8 (4.3, 7.7)	7.0 (4.1, 11.8)	8.2 (5.3, 12.4)
New Hampshire	7.4 (6.2, 8.9) <sup>d</sup>	6.7 (4.4, 9.9)	6.7 (3.9, 11.4)	11.6 (9.2, 14.4) <sup>d</sup>	6.2 (4.7, 8.0)	11.2 (7.2, 16.9) <sup>d</sup>	13.1 (9.9, 17.2) <sup>d</sup>
New Jersey <sup>c</sup>	6.3 (5.1, 7.7) <sup>d</sup>	4.5 (3.1, 6.7)	5.4 (3.6, 8.0)	10.0 (7.7, 12.8) <sup>d</sup>	4.2 (3.0, 5.8)	5.1 (2.8, 9.0)	6.8 (4.6, 9.8) <sup>d</sup>
New Mexico <sup>c</sup>	6.1 (4.8, 7.6) <sup>d</sup>	—	7.4 (4.4, 12.3)	8.1 (5.9, 10.9) <sup>d</sup>	4.9 (3.6, 6.6)	5.9 (3.4, 10.3)	7.8 (5.4, 11.2) <sup>d</sup>
New York	5.5 (4.9, 6.2) <sup>d</sup>	3.4 (2.5, 4.6) <sup>e</sup>	4.3 (3.3, 5.6)	9.0 (7.7, 10.5) <sup>d</sup>	3.4 (2.9, 4.0) <sup>d</sup>	5.8 (4.4, 7.6)	6.1 (5.0, 7.3) <sup>d</sup>
North Carolina	5.8 (4.9, 7.0) <sup>d</sup>	4.0 (2.7, 5.9)	5.3 (3.5, 8.0)	9.5 (7.5, 11.9) <sup>d</sup>	4.0 (3.1, 5.1)	4.1 (2.6, 6.6)	5.6 (3.9, 7.9)
North Dakota	6.1 (4.9, 7.6) <sup>d</sup>	3.2 (1.9, 5.2)	6.5 (3.9, 10.5)	9.7 (7.3, 12.8) <sup>d</sup>	4.6 (3.4, 6.2)	6.2 (3.6, 10.6)	10.4 (7.4, 14.3) <sup>d</sup>
Ohio	7.4 (6.5, 8.3) <sup>d</sup>	4.6 (3.5, 6.1)	7.2 (5.4, 9.5)	10.6 (9.0, 12.3) <sup>d</sup>	5.7 (4.9, 6.7)	10.8 (8.0, 14.4) <sup>d</sup>	10.5 (8.6, 12.8) <sup>d</sup>
Oklahoma <sup>c</sup>	8.7 (7.5, 10.0) <sup>d</sup>	6.2 (4.7, 8.2)	9.4 (6.8, 13.0)	11.4 (9.4, 13.7) <sup>d</sup>	7.6 (6.3, 9.3)	9.5 (6.8, 13.0)	11.8 (9.5, 14.6) <sup>d</sup>
Oregon	7.0 (6.0, 8.1) <sup>d</sup>	4.9 (3.5, 6.9)	9.3 (6.6, 13.1) <sup>d</sup>	10.6 (8.9, 12.6) <sup>d</sup>	6.0 (4.8, 7.6) <sup>d</sup>	9.8 (6.8, 13.8) <sup>d</sup>	9.7 (7.6, 12.3) <sup>d</sup>
Pennsylvania <sup>c</sup>	7.4 (6.2, 8.7) <sup>d</sup>	3.6 (2.2, 5.9)	8.2 (5.3, 12.4) <sup>d</sup>	10.5 (8.4, 13.0) <sup>d</sup>	5.9 (4.5, 7.6) <sup>d</sup>	7.9 (5.1, 12.0) <sup>d</sup>	9.2 (7.0, 12.2) <sup>d</sup>
Rhode Island	6.9 (5.7, 8.3) <sup>d</sup>	3.2 (2.0, 5.1) <sup>e</sup>	7.6 (4.9, 11.6)	10.5 (8.2, 13.2) <sup>d</sup>	5.7 (4.5, 7.1)	8.6 (5.7, 12.8) <sup>d</sup>	8.8 (6.4, 11.9) <sup>d</sup>
South Carolina <sup>c</sup>	5.1 (4.4, 6.0) <sup>d</sup>	3.0 (1.9, 4.6) <sup>e</sup>	5.5 (3.7, 8.0)	7.5 (6.1, 9.2) <sup>d</sup>	3.9 (3.1, 4.9)	4.9 (3.4, 7.0)	5.4 (4.0, 7.1)
South Dakota	4.8 (3.6, 6.5)	—	—	8.7 (6.2, 12.0) <sup>d</sup>	3.3 (1.9, 5.7)	—	8.0 (5.0, 12.3) <sup>d</sup>

State	Any disability	Hearing	Vision	Cognition	Mobility	Self-care	Independent living
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Tennessee	7.1 (6.1, 8.2) <sup>d</sup>	6.4 (4.5, 9.0)	8.2 (6.0, 11.1) <sup>d</sup>	9.6 (7.9, 11.7) <sup>d</sup>	6.4 (5.2, 7.8)	7.6 (5.5, 10.4)	9.1 (7.2, 11.4) <sup>d</sup>
Texas	6.0 (5.0, 7.2) <sup>d</sup>	3.4 (2.2, 5.1) <sup>e</sup>	5.2 (3.5, 7.6)	10.0 (8.0, 12.4) <sup>d</sup>	4.9 (3.8, 6.4)	7.2 (4.6, 11.2)	6.9 (4.9, 9.6)
Utah	8.1 (7.2, 9.1) <sup>d</sup>	4.3 (3.1, 5.9)	7.4 (5.3, 10.3)	12.6 (11.0, 14.4) <sup>d</sup>	5.3 (4.3, 6.5)	9.7 (7.3, 12.8) <sup>d</sup>	11.4 (9.3, 13.9) <sup>d</sup>
Vermont <sup>c</sup>	4.8 (3.6, 6.4) <sup>d</sup>	—	—	6.9 (4.8, 9.8) <sup>d</sup>	3.5 (2.4, 5.0)	5.7 (3.2, 10.0)	8.5 (5.2, 13.8) <sup>d</sup>
Virginia	6.5 (5.6, 7.4) <sup>d</sup>	3.5 (2.6, 4.7) <sup>e</sup>	6.2 (4.5, 8.4)	10.0 (8.4, 11.9) <sup>d</sup>	5.2 (4.3, 6.3)	7.0 (5.0, 9.6)	8.5 (6.6, 10.9) <sup>d</sup>
Washington <sup>c</sup>	7.9 (7.0, 9.0) <sup>d</sup>	5.6 (4.2, 7.4)	8.9 (6.0, 12.9) <sup>d</sup>	11.5 (9.7, 13.6) <sup>d</sup>	6.7 (5.5, 8.0) <sup>d</sup>	8.9 (6.7, 11.6) <sup>d</sup>	10.6 (8.5, 13.1) <sup>d</sup>
West Virginia <sup>c</sup>	6.1 (5.2, 7.1) <sup>d</sup>	3.9 (2.8, 5.3) <sup>e</sup>	7.2 (5.5, 9.5) <sup>d</sup>	8.6 (6.9, 10.5) <sup>d</sup>	5.2 (4.3, 6.3)	7.6 (5.5, 10.4) <sup>d</sup>	6.9 (5.3, 8.9) <sup>d</sup>
Wisconsin	7.0 (5.8, 8.5) <sup>d</sup>	5.1 (3.1, 8.3)	8.3 (4.7, 14.5)	10.6 (8.3, 13.4) <sup>d</sup>	5.9 (4.4, 7.9)	10.0 (6.1, 16.0) <sup>d</sup>	10.0 (7.3, 13.5) <sup>d</sup>
Wyoming	8.7 (7.4, 10.3) <sup>d</sup>	5.7 (3.9, 8.3)	6.7 (4.2, 10.5)	13.8 (11.0, 17.2) <sup>d</sup>	6.7 (5.1, 8.7)	6.6 (4.1, 10.4)	9.4 (6.8, 12.9) <sup>d</sup>

Notes: All estimates are weighted according to BRFSS sampling methodology. CI: confidence interval; — : estimate not presented and chi-square test not conducted because of relative standard error >30%.

<sup>a</sup> Current e-cigarette user includes persons aged 18 years who reported currently using e-cigarettes every day or some days at the time of the survey. Excludes respondents with an unknown use status.

<sup>b</sup> Any disability includes persons aged 18 years who reported having serious difficulty with vision, hearing, mobility, cognition, self-care, or independent living. Excludes respondents whose disability status was unknown.

<sup>c</sup> Includes only 2016 and 2017 data because the jurisdiction did not participate in the 2018 survey.

<sup>d</sup>  $P < 0.05$  for the prevalence of current e-cigarette users among adults with the specific disability compared to current e-cigarette users among adults without the corresponding disability; for these comparisons, the prevalence of current e-cigarette use was higher for adults with than without the disability.

<sup>e</sup>  $P < 0.05$  for the prevalence of current e-cigarette users among adults with hearing disability compared to current e-cigarette users among adults without hearing disability; for these comparisons, the prevalence of current e-cigarette use was lower for adults with than without hearing disability.

**Table 3**

State-specific prevalence of current e-cigarette use<sup>a</sup> among adults with and without a disability<sup>b</sup> aged 18 years or older, by age group—Behavioral Risk Factor Surveillance System, United States, 2016–2018.

State	Current e-cigarette use, % (95% CI)															
	18–24 years			25–44 years			45–64 years			65 years						
	Non-disability % (95% CI)	Any disability % (95% CI)	% (95% CI)	Non-disability % (95% CI)	Any disability % (95% CI)	% (95% CI)	Non-disability % (95% CI)	Any disability % (95% CI)	% (95% CI)	Non-disability % (95% CI)	Any disability % (95% CI)	% (95% CI)				
All 50 states and District of Columbia, Median	9.5 (7.3, 12.4)	18.7 (15.0, 23.0) <sup>d</sup>	5.2 (4.2, 6.3)	11.5 (9.4, 14.1) <sup>d</sup>	2.5 (1.9, 3.2)	5.5 (4.5, 6.8) <sup>d</sup>	0.8 (0.5, 1.3)	1.4 (0.9, 2.0) <sup>d</sup>	9.5 (7.3, 12.4)	18.7 (15.0, 23.0) <sup>d</sup>	5.2 (4.2, 6.3)	11.5 (9.4, 14.1) <sup>d</sup>	2.5 (1.9, 3.2)	5.5 (4.5, 6.8) <sup>d</sup>	0.8 (0.5, 1.3)	1.4 (0.9, 2.0) <sup>d</sup>
Alabama <sup>c</sup>	8.8 (6.2, 12.5)	13.6 (8.2, 21.8)	5.6 (4.5, 6.9)	8.1 (6.0, 10.8)	3.3 (2.6, 4.3)	6.5 (5.2, 8.1) <sup>d</sup>	0.7 (0.4, 1.2)	1.5 (1.0, 2.2) <sup>d</sup>	8.8 (6.2, 12.5)	13.6 (8.2, 21.8)	5.6 (4.5, 6.9)	8.1 (6.0, 10.8)	3.3 (2.6, 4.3)	6.5 (5.2, 8.1) <sup>d</sup>	0.7 (0.4, 1.2)	1.5 (1.0, 2.2) <sup>d</sup>
Alaska	8.5 (5.8, 12.3)	15.1 (8.2, 26.1)	5.2 (3.8, 7.1)	12.3 (8.0, 18.6) <sup>d</sup>	1.5 (1.0, 2.2)	4.0 (2.6, 6.0) <sup>d</sup>	1.0 (0.5, 1.9)	—	8.5 (5.8, 12.3)	15.1 (8.2, 26.1)	5.2 (3.8, 7.1)	12.3 (8.0, 18.6) <sup>d</sup>	1.5 (1.0, 2.2)	4.0 (2.6, 6.0) <sup>d</sup>	1.0 (0.5, 1.9)	—
Arizona <sup>c</sup>	9.7 (7.7, 12.1)	13.8 (8.5, 21.5)	5.7 (4.7, 6.8)	14.6 (11.5, 18.3) <sup>d</sup>	2.9 (2.4, 3.5)	6.4 (5.2, 7.9) <sup>d</sup>	1.0 (0.7, 1.4)	1.4 (1.0, 1.8)	9.7 (7.7, 12.1)	13.8 (8.5, 21.5)	5.7 (4.7, 6.8)	14.6 (11.5, 18.3) <sup>d</sup>	2.9 (2.4, 3.5)	6.4 (5.2, 7.9) <sup>d</sup>	1.0 (0.7, 1.4)	1.4 (1.0, 1.8)
Arkansas	14.1 (9.9, 19.6)	—	6.4 (4.9, 8.2)	12.0 (8.9, 16.0) <sup>d</sup>	2.7 (2.0, 3.6)	7.2 (5.7, 9.1) <sup>d</sup>	1.2 (0.7, 1.9)	2.1 (1.4, 3.0)	14.1 (9.9, 19.6)	—	6.4 (4.9, 8.2)	12.0 (8.9, 16.0) <sup>d</sup>	2.7 (2.0, 3.6)	7.2 (5.7, 9.1) <sup>d</sup>	1.2 (0.7, 1.9)	2.1 (1.4, 3.0)
California <sup>c</sup>	6.4 (5.1, 8.0)	14.1 (9.7, 20.1) <sup>d</sup>	3.9 (3.3, 4.5)	6.7 (5.1, 8.8) <sup>d</sup>	1.1 (0.8, 1.5)	2.6 (1.9, 3.6) <sup>d</sup>	0.5 (0.2, 0.8)	0.7 (0.4, 1.3)	6.4 (5.1, 8.0)	14.1 (9.7, 20.1) <sup>d</sup>	3.9 (3.3, 4.5)	6.7 (5.1, 8.8) <sup>d</sup>	1.1 (0.8, 1.5)	2.6 (1.9, 3.6) <sup>d</sup>	0.5 (0.2, 0.8)	0.7 (0.4, 1.3)
Colorado	13.5 (11.0, 16.5)	29.0 (22.2, 36.9) <sup>d</sup>	6.0 (5.2, 6.9)	14.7 (11.7, 18.2) <sup>d</sup>	2.3 (1.9, 2.8)	7.0 (5.7, 8.7) <sup>d</sup>	1.2 (0.8, 1.8)	2.1 (1.4, 3.0)	13.5 (11.0, 16.5)	29.0 (22.2, 36.9) <sup>d</sup>	6.0 (5.2, 6.9)	14.7 (11.7, 18.2) <sup>d</sup>	2.3 (1.9, 2.8)	7.0 (5.7, 8.7) <sup>d</sup>	1.2 (0.8, 1.8)	2.1 (1.4, 3.0)
Connecticut	10.8 (8.7, 13.2)	21.4 (15.6, 28.8) <sup>d</sup>	4.8 (4.1, 5.7)	9.6 (7.3, 12.5) <sup>d</sup>	1.7 (1.4, 2.0)	5.3 (4.4, 6.5) <sup>d</sup>	0.6 (0.4, 0.8)	1.3 (0.8, 2.1) <sup>d</sup>	10.8 (8.7, 13.2)	21.4 (15.6, 28.8) <sup>d</sup>	4.8 (4.1, 5.7)	9.6 (7.3, 12.5) <sup>d</sup>	1.7 (1.4, 2.0)	5.3 (4.4, 6.5) <sup>d</sup>	0.6 (0.4, 0.8)	1.3 (0.8, 2.1) <sup>d</sup>
Delaware	8.3 (6.0, 11.3)	20.9 (14.0, 29.9) <sup>d</sup>	4.4 (3.4, 5.5)	12.8 (9.3, 17.2) <sup>d</sup>	1.9 (1.4, 2.6)	6.9 (5.2, 9.1) <sup>d</sup>	0.9 (0.5, 1.5)	1.3 (0.8, 2.0)	8.3 (6.0, 11.3)	20.9 (14.0, 29.9) <sup>d</sup>	4.4 (3.4, 5.5)	12.8 (9.3, 17.2) <sup>d</sup>	1.9 (1.4, 2.6)	6.9 (5.2, 9.1) <sup>d</sup>	0.9 (0.5, 1.5)	1.3 (0.8, 2.0)
District of Columbia <sup>c</sup>	5.5 (3.2, 9.5)	—	2.4 (1.7, 3.5)	—	1.1 (0.7, 1.8)	4.1 (2.7, 6.1) <sup>d</sup>	—	—	5.5 (3.2, 9.5)	—	2.4 (1.7, 3.5)	—	1.1 (0.7, 1.8)	4.1 (2.7, 6.1) <sup>d</sup>	—	—
Florida	10.9 (8.9, 13.4)	15.3 (11.0, 21.0)	5.4 (4.6, 6.4)	11.5 (9.4, 14.1) <sup>d</sup>	2.9 (2.4, 3.4)	6.2 (5.3, 7.3) <sup>d</sup>	1.2 (0.9, 1.7)	1.5 (1.1, 2.0)	10.9 (8.9, 13.4)	15.3 (11.0, 21.0)	5.4 (4.6, 6.4)	11.5 (9.4, 14.1) <sup>d</sup>	2.9 (2.4, 3.4)	6.2 (5.3, 7.3) <sup>d</sup>	1.2 (0.9, 1.7)	1.5 (1.1, 2.0)
Georgia	9.2 (7.3, 11.5)	12.7 (8.8, 18.2)	5.4 (4.5, 6.5)	10.6 (8.3, 13.4) <sup>d</sup>	2.6 (2.1, 3.2)	5.1 (4.1, 6.4) <sup>d</sup>	0.8 (0.5, 1.2)	1.4 (1.0, 2.1) <sup>d</sup>	9.2 (7.3, 11.5)	12.7 (8.8, 18.2)	5.4 (4.5, 6.5)	10.6 (8.3, 13.4) <sup>d</sup>	2.6 (2.1, 3.2)	5.1 (4.1, 6.4) <sup>d</sup>	0.8 (0.5, 1.2)	1.4 (1.0, 2.1) <sup>d</sup>
Hawaii	13.8 (11.7, 16.3)	19.9 (14.4, 27.0)	6.4 (5.6, 7.4)	12.8 (10.0, 16.1) <sup>d</sup>	2.7 (2.2, 3.3)	4.1 (3.0, 5.4) <sup>d</sup>	0.8 (0.5, 1.3)	1.3 (0.8, 2.0)	13.8 (11.7, 16.3)	19.9 (14.4, 27.0)	6.4 (5.6, 7.4)	12.8 (10.0, 16.1) <sup>d</sup>	2.7 (2.2, 3.3)	4.1 (3.0, 5.4) <sup>d</sup>	0.8 (0.5, 1.3)	1.3 (0.8, 2.0)
Idaho	8.7 (6.5, 11.7)	26.4 (17.4, 38.0) <sup>d</sup>	4.5 (3.5, 5.8)	12.0 (8.2, 17.2) <sup>d</sup>	3.0 (2.3, 4.0)	6.9 (5.1, 9.3) <sup>d</sup>	—	1.8 (1.2, 2.9)	8.7 (6.5, 11.7)	26.4 (17.4, 38.0) <sup>d</sup>	4.5 (3.5, 5.8)	12.0 (8.2, 17.2) <sup>d</sup>	3.0 (2.3, 4.0)	6.9 (5.1, 9.3) <sup>d</sup>	—	1.8 (1.2, 2.9)
Illinois <sup>c</sup>	7.4 (5.3, 10.1)	24.1 (15.4, 35.5) <sup>d</sup>	4.1 (3.2, 5.4)	12.8 (8.2, 19.5) <sup>d</sup>	2.8 (2.1, 3.7)	5.1 (3.7, 7.0) <sup>d</sup>	—	1.4 (0.8, 2.5)	7.4 (5.3, 10.1)	24.1 (15.4, 35.5) <sup>d</sup>	4.1 (3.2, 5.4)	12.8 (8.2, 19.5) <sup>d</sup>	2.8 (2.1, 3.7)	5.1 (3.7, 7.0) <sup>d</sup>	—	1.4 (0.8, 2.5)
Indiana	11.2 (9.2, 13.6)	16.6 (11.7, 23.1)	6.6 (5.7, 7.5)	13.0 (10.6, 15.7) <sup>d</sup>	3.1 (2.6, 3.6)	6.9 (5.8, 8.0) <sup>d</sup>	1.3 (1.0, 1.8)	1.7 (1.3, 2.3)	11.2 (9.2, 13.6)	16.6 (11.7, 23.1)	6.6 (5.7, 7.5)	13.0 (10.6, 15.7) <sup>d</sup>	3.1 (2.6, 3.6)	6.9 (5.8, 8.0) <sup>d</sup>	1.3 (1.0, 1.8)	1.7 (1.3, 2.3)
Iowa	9.7 (8.1, 11.7)	19.5 (14.4, 25.8) <sup>d</sup>	4.3 (3.6, 5.0)	13.3 (10.6, 16.6) <sup>d</sup>	2.1 (1.7, 2.5)	6.9 (5.6, 8.4) <sup>d</sup>	0.7 (0.4, 1.1)	0.8 (0.5, 1.1)	9.7 (8.1, 11.7)	19.5 (14.4, 25.8) <sup>d</sup>	4.3 (3.6, 5.0)	13.3 (10.6, 16.6) <sup>d</sup>	2.1 (1.7, 2.5)	6.9 (5.6, 8.4) <sup>d</sup>	0.7 (0.4, 1.1)	0.8 (0.5, 1.1)
Kansas	9.2 (7.5, 11.2)	15.6 (11.3, 21.3) <sup>d</sup>	5.5 (4.8, 6.3)	12.6 (10.1, 15.5) <sup>d</sup>	2.2 (1.9, 2.6)	7.2 (6.0, 8.6) <sup>d</sup>	0.8 (0.6, 1.1)	1.5 (1.1, 2.1) <sup>d</sup>	9.2 (7.5, 11.2)	15.6 (11.3, 21.3) <sup>d</sup>	5.5 (4.8, 6.3)	12.6 (10.1, 15.5) <sup>d</sup>	2.2 (1.9, 2.6)	7.2 (6.0, 8.6) <sup>d</sup>	0.8 (0.6, 1.1)	1.5 (1.1, 2.1) <sup>d</sup>

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State	Current e-cigarette use, % (95% CI)													
	18–24 years				25–44 years				45–64 years				65 years	
	Non-disability % (95% CI)	Any disability % (95% CI)	Non-disability % (95% CI)	Any disability % (95% CI)	Non-disability % (95% CI)	Any disability % (95% CI)	Non-disability % (95% CI)	Any disability % (95% CI)	Non-disability % (95% CI)	Any disability % (95% CI)	Non-disability % (95% CI)	Any disability % (95% CI)		
Kentucky <sup>c</sup>	11.3 (8.3, 15.2)	15.2 (10.4, 21.6)	5.8 (4.7, 7.1)	9.8 (7.5, 12.7) <sup>d</sup>	3.3 (2.5, 4.3)	8.3 (6.6, 10.5) <sup>d</sup>	—	—	1.6 (0.9, 2.6)					
Louisiana	9.9 (7.4, 13.1)	17.7 (12.0, 25.3) <sup>d</sup>	6.8 (5.6, 8.3)	8.7 (6.3, 11.9)	2.5 (1.9, 3.3)	6.1 (4.8, 7.8) <sup>d</sup>	1.0 (0.6, 1.7)	1.0 (0.7, 1.6)						
Maine	9.5 (6.4, 13.9)	29.6 (19.1, 42.8) <sup>d</sup>	4.6 (3.7, 5.7)	14.4 (11.0, 18.6) <sup>d</sup>	1.8 (1.4, 2.4)	5.0 (3.9, 6.5) <sup>d</sup>	0.7 (0.5, 1.0)	1.2 (0.7, 2.0)						
Maryland	6.8 (5.3, 8.7)	11.8 (8.0, 17.1) <sup>d</sup>	4.1 (3.5, 4.8)	10.4 (8.0, 13.2) <sup>d</sup>	1.7 (1.4, 2.0)	5.1 (4.2, 6.1) <sup>d</sup>	0.5 (0.4, 0.8)	0.9 (0.7, 1.3) <sup>d</sup>						
Massachusetts	8.8 (6.7, 11.4)	17.5 (11.7, 25.4) <sup>d</sup>	4.9 (4.0, 5.9)	10.5 (7.7, 14.0) <sup>d</sup>	1.9 (1.5, 2.5)	5.8 (4.5, 7.5) <sup>d</sup>	—	1.9 (1.1, 3.2)						
Michigan	13.5 (11.4, 15.8)	21.9 (17.2, 27.3) <sup>d</sup>	5.0 (4.2, 5.8)	10.6 (8.7, 12.8) <sup>d</sup>	2.4 (2.0, 2.9)	5.6 (4.7, 6.8) <sup>d</sup>	1.0 (0.7, 1.4)	1.2 (0.8, 1.7)						
Minnesota	11.5 (10.2, 13.0)	18.7 (15.0, 23.0) <sup>d</sup>	3.8 (3.4, 4.3)	8.2 (6.8, 9.9) <sup>d</sup>	2.2 (1.9, 2.5)	4.4 (3.6, 5.2) <sup>d</sup>	0.7 (0.5, 0.9)	1.5 (1.1, 2.0) <sup>d</sup>						
Mississippi	8.6 (6.3, 11.7)	17.7 (11.7, 25.9) <sup>d</sup>	5.4 (4.4, 6.7)	10.0 (7.7, 13.0) <sup>d</sup>	2.7 (2.1, 3.6)	5.3 (4.2, 6.8) <sup>d</sup>	1.1 (0.6, 1.7)	1.5 (1.0, 2.3)						
Missouri	11.6 (9.1, 14.7)	11.8 (7.7, 17.7)	4.8 (3.9, 5.9)	11.9 (8.9, 15.8) <sup>d</sup>	3.3 (2.7, 4.1)	7.0 (5.6, 8.7) <sup>d</sup>	0.8 (0.6, 1.2)	1.4 (1.0, 2.0) <sup>d</sup>						
Montana	9.5 (7.3, 12.4)	22.9 (15.3, 32.8) <sup>d</sup>	4.2 (3.3, 5.3)	10.8 (8.1, 14.3) <sup>d</sup>	1.8 (1.3, 2.5)	4.9 (3.6, 6.7) <sup>d</sup>	0.8 (0.5, 1.3)	1.3 (0.8, 2.0)						
Nebraska	9.3 (7.8, 11.1)	19.8 (14.9, 25.8) <sup>d</sup>	5.3 (4.6, 6.0)	9.5 (7.3, 12.2) <sup>d</sup>	2.7 (2.2, 3.2)	5.5 (4.5, 6.8) <sup>d</sup>	1.1 (0.8, 1.6)	1.5 (1.0, 2.2)						
Nevada <sup>c</sup>	11.3 (8.0, 15.8)	17.7 (10.2, 29.1)	5.8 (4.3, 7.8)	12.8 (8.8, 18.4) <sup>d</sup>	3.3 (2.1, 5.1)	5.0 (3.5, 6.9)	—	3.2 (1.9, 5.1)						
New Hampshire	11.6 (8.2, 16.3)	19.4 (12.6, 28.7)	6.0 (4.8, 7.6)	14.1 (10.5, 18.8) <sup>d</sup>	1.7 (1.3, 2.2)	5.5 (4.2, 7.2) <sup>d</sup>	0.4 (0.2, 0.7)	1.3 (0.8, 2.2) <sup>d</sup>						
New Jersey <sup>c</sup>	9.4 (6.8, 12.9)	19.8 (12.3, 30.3) <sup>d</sup>	3.7 (2.8, 4.8)	12.1 (8.6, 16.7) <sup>d</sup>	2.0 (1.5, 2.6)	4.5 (3.2, 6.2) <sup>d</sup>	0.7 (0.4, 1.0)	—						
New Mexico <sup>c</sup>	12.4 (9.0, 16.8)	—	4.7 (3.6, 6.2)	13.2 (9.7, 17.7) <sup>d</sup>	2.0 (1.5, 2.8)	3.6 (2.6, 5.1) <sup>d</sup>	0.9 (0.6, 1.5)	1.2 (0.8, 1.9)						
New York	9.4 (8.0, 11.1)	19.3 (14.6, 24.9) <sup>d</sup>	4.8 (4.3, 5.4)	10.1 (8.4, 12.1) <sup>d</sup>	2.5 (2.1, 2.9)	4.1 (3.4, 4.9) <sup>d</sup>	1.1 (0.7, 1.6)	1.1 (0.7, 1.5)						
North Carolina	8.9 (6.8, 11.6)	19.1 (12.4, 28.2) <sup>d</sup>	5.7 (4.7, 6.8)	9.4 (6.9, 12.6) <sup>d</sup>	2.5 (1.9, 3.2)	5.3 (4.0, 7.1) <sup>d</sup>	—	1.2 (0.8, 1.9)						
North Dakota	13.1 (10.5, 16.3)	20.1 (13.0, 29.6)	4.4 (3.7, 5.4)	11.1 (7.9, 15.2) <sup>d</sup>	1.6 (1.2, 2.0)	4.4 (3.2, 6.1) <sup>d</sup>	0.4 (0.2, 0.7)	—						
Ohio	10.7 (8.8, 13.0)	18.9 (14.0, 25.0) <sup>d</sup>	5.8 (4.9, 6.8)	13.5 (11.1, 16.4) <sup>d</sup>	3.4 (2.8, 3.9)	6.2 (5.2, 7.5) <sup>d</sup>	0.8 (0.6, 1.1)	1.9 (1.4, 2.6) <sup>d</sup>						
Oklahoma <sup>c</sup>	11.3 (8.2, 15.5)	19.6 (13.0, 28.5)	6.9 (5.7, 8.4)	15.0 (11.8, 18.8) <sup>d</sup>	4.1 (3.3, 5.1)	7.9 (6.4, 9.6) <sup>d</sup>	1.6 (1.1, 2.4)	2.4 (1.7, 3.4)						
Oregon	9.0 (7.0, 11.4)	19.9 (14.3, 27.0) <sup>d</sup>	5.3 (4.5, 6.2)	11.0 (8.8, 13.7) <sup>d</sup>	2.3 (1.8, 2.9)	6.7 (5.3, 8.4) <sup>d</sup>	0.6 (0.4, 1.0)	1.1 (0.6, 1.9)						

State	Current e-cigarette use, % (95% CI)													
	18–24 years				25–44 years				45–64 years				65 years	
	Non-disability % (95% CI)	Any disability % (95% CI)	Non-disability % (95% CI)	Any disability % (95% CI)	Non-disability % (95% CI)	Any disability % (95% CI)	Non-disability % (95% CI)	Any disability % (95% CI)	Non-disability % (95% CI)	Any disability % (95% CI)	Non-disability % (95% CI)	Any disability % (95% CI)		
Pennsylvania <sup>c</sup>	6.5 (4.8, 8.8)	15.5 (9.9, 23.4) <sup>d</sup>	4.5 (3.6, 5.6)	15.9 (12.2, 20.4) <sup>d</sup>	2.5 (2.0, 3.2)	6.6 (5.0, 8.6) <sup>d</sup>	0.8 (0.5, 1.4)	6.6 (5.0, 8.6) <sup>d</sup>	0.8 (0.5, 1.4)	1.1 (0.6, 1.8)	0.8 (0.5, 1.4)	1.1 (0.6, 1.8)		
Rhode Island	9.5 (6.8, 13.2)	15.0 (8.5, 25.1)	5.3 (4.2, 6.6)	10.5 (7.7, 14.1) <sup>d</sup>	3.2 (2.5, 3.9)	6.6 (5.2, 8.3) <sup>d</sup>	0.5 (0.3, 0.9)	6.6 (5.2, 8.3) <sup>d</sup>	0.5 (0.3, 0.9)	1.9 (1.3, 2.8) <sup>d</sup>	0.5 (0.3, 0.9)	1.9 (1.3, 2.8) <sup>d</sup>		
South Carolina <sup>c</sup>	7.3 (5.4, 9.8)	14.5 (9.0, 22.4) <sup>d</sup>	5.5 (4.6, 6.6)	9.4 (7.2, 12.2) <sup>d</sup>	2.9 (2.3, 3.6)	4.6 (3.7, 5.8) <sup>d</sup>	0.8 (0.6, 1.2)	4.6 (3.7, 5.8) <sup>d</sup>	0.8 (0.6, 1.2)	1.4 (0.9, 2.0)	0.8 (0.6, 1.2)	1.4 (0.9, 2.0)		
South Dakota	8.8 (6.3, 12.2)	20.6 (11.3, 34.8)	4.1 (2.8, 5.8)	10.3 (6.8, 15.1) <sup>d</sup>	2.2 (1.5, 3.1)	2.7 (1.5, 4.6)	0.4 (0.2, 0.7)	2.7 (1.5, 4.6)	0.4 (0.2, 0.7)	—	0.4 (0.2, 0.7)	—		
Tennessee	11.6 (8.9, 15.0)	19.7 (13.4, 28.0) <sup>d</sup>	6.1 (5.0, 7.4)	12.3 (9.6, 15.6) <sup>d</sup>	3.0 (2.3, 3.9)	6.6 (5.3, 8.3) <sup>d</sup>	1.2 (0.8, 1.8)	6.6 (5.3, 8.3) <sup>d</sup>	1.2 (0.8, 1.8)	1.4 (0.9, 2.0)	1.2 (0.8, 1.8)	1.4 (0.9, 2.0)		
Texas	8.1 (6.3, 10.4)	14.7 (9.5, 22.1)	5.2 (4.2, 6.3)	8.7 (6.6, 11.4) <sup>d</sup>	3.4 (2.6, 4.5)	6.2 (4.7, 8.2) <sup>d</sup>	—	6.2 (4.7, 8.2) <sup>d</sup>	—	1.2 (0.7, 2.0)	6.2 (4.7, 8.2) <sup>d</sup>	1.2 (0.7, 2.0)		
Utah	10.8 (9.4, 12.3)	23.6 (19.3, 28.5) <sup>d</sup>	5.1 (4.6, 5.8)	12.4 (10.5, 14.6) <sup>d</sup>	1.7 (1.4, 2.1)	5.0 (3.9, 6.5) <sup>d</sup>	0.6 (0.3, 0.9)	5.0 (3.9, 6.5) <sup>d</sup>	0.6 (0.3, 0.9)	1.0 (0.6, 1.7)	0.6 (0.3, 0.9)	1.0 (0.6, 1.7)		
Vermont <sup>c</sup>	5.6 (3.6, 8.5)	—	4.6 (3.3, 6.4)	9.4 (5.7, 15.2)	1.2 (0.8, 1.7)	3.2 (2.2, 4.6) <sup>d</sup>	0.4 (0.2, 0.7)	3.2 (2.2, 4.6) <sup>d</sup>	0.4 (0.2, 0.7)	1.1 (0.6, 1.9) <sup>d</sup>	0.4 (0.2, 0.7)	1.1 (0.6, 1.9) <sup>d</sup>		
Virginia	10.4 (8.5, 12.6)	15.6 (11.1, 21.4)	5.8 (5.1, 6.7)	11.4 (9.1, 14.2) <sup>d</sup>	2.1 (1.7, 2.5)	5.7 (4.7, 6.9) <sup>d</sup>	0.8 (0.5, 1.1)	5.7 (4.7, 6.9) <sup>d</sup>	0.8 (0.5, 1.1)	1.2 (0.8, 1.7)	0.8 (0.5, 1.1)	1.2 (0.8, 1.7)		
Washington <sup>c</sup>	8.4 (6.8, 10.2)	22.3 (16.6, 29.2) <sup>d</sup>	4.7 (4.1, 5.5)	11.7 (9.5, 14.4) <sup>d</sup>	2.5 (2.1, 3.0)	7.2 (5.9, 8.7) <sup>d</sup>	0.7 (0.5, 1.0)	7.2 (5.9, 8.7) <sup>d</sup>	0.7 (0.5, 1.0)	1.6 (1.1, 2.2) <sup>d</sup>	0.7 (0.5, 1.0)	1.6 (1.1, 2.2) <sup>d</sup>		
West Virginia <sup>d</sup>	8.7 (6.1, 12.2)	17.2 (10.7, 26.6)	5.9 (4.8, 7.3)	11.5 (9.0, 14.6) <sup>d</sup>	2.9 (2.2, 3.7)	5.3 (4.3, 6.4) <sup>d</sup>	1.1 (0.6, 1.7)	5.3 (4.3, 6.4) <sup>d</sup>	1.1 (0.6, 1.7)	1.4 (1.0, 2.1)	1.1 (0.6, 1.7)	1.4 (1.0, 2.1)		
Wisconsin	11.4 (8.9, 14.5)	18.7 (12.4, 27.1)	5.0 (4.0, 6.2)	13.7 (10.1, 18.4) <sup>d</sup>	2.3 (1.7, 3.1)	5.5 (4.0, 7.5) <sup>d</sup>	—	5.5 (4.0, 7.5) <sup>d</sup>	—	—	5.5 (4.0, 7.5) <sup>d</sup>	—		
Wyoming	14.5 (11.2, 18.5)	22.7 (14.9, 33.0)	5.1 (4.1, 6.4)	17.6 (13.6, 22.4) <sup>d</sup>	2.5 (1.9, 3.2)	6.8 (5.3, 8.7) <sup>d</sup>	0.7 (0.4, 1.2)	6.8 (5.3, 8.7) <sup>d</sup>	0.7 (0.4, 1.2)	1.1 (0.7, 1.9)	0.7 (0.4, 1.2)	1.1 (0.7, 1.9)		

Notes: All estimates are weighted according to BRFSS sampling methodology. CI: confidence interval; —: estimate not presented and chi-square test not conducted because of relative standard error >30%.

<sup>a</sup>Current e-cigarette user includes persons aged 18 years who reported currently using e-cigarettes every day or some days at the time of the survey. Excludes respondents with an unknown use status.

<sup>b</sup>Any disability includes persons aged 18 years who reported having serious difficulty with vision, hearing, mobility, cognition, self-care or independent living. Excludes respondents whose disability status was unknown.

<sup>c</sup>Includes only 2016 and 2017 data because the jurisdiction did not participate in the 2018 survey.

<sup>d</sup> $p < 0.05$  for the prevalence of current e-cigarette users among adults with disabilities compared to current e-cigarette users among adults without disabilities in the corresponding age group.