# Outcome 20: Current E-Cigarette Use

Internal variable name: outc20_ecig

Definition: Do you now use e-cigarettes or other electronic vaping products every day, some days, or not at all?

## Predictive models

| | Mixed, demos only | Logit, no area effects | Mixed with area covariates |
|---|---|---|---|
| | b/se | b/se | b/se |
| Outcome 20: Current E-Cigarette Use | | | |
| NH White | 0.0000 | 0.0000 | 0.0000 |
| | (.) | (.) | (.) |
| NH Black vs. NH White | -0.6223* | -0.6529* | -0.6529* |
| | (0.2756) | (0.2628) | (0.2732) |
| NH Asian vs. NH White | -0.7542 | -0.7881 | -0.7874 |
| | (0.5398) | (0.4911) | (0.5422) |
| NH Other vs. NH White | -0.7987* | -0.7448 | -0.7446* |
| | (0.3599) | (0.4002) | (0.3544) |
| Hispanic vs. NH White | -0.5041 | -0.5457 | -0.5456 |
| | (0.4296) | (0.4097) | (0.4271) |
| SEX OF RESPONDENT=1 | 0.0000 | 0.0000 | 0.0000 |
| | (.) | (.) | (.) |
| Female | -0.2622 | -0.2749 | -0.2749 |
| | (0.1600) | (0.1754) | (0.1560) |
| Age 18-34 vs. 65+ | 1.2375*** | 1.2379*** | 1.2380*** |
| | (0.3611) | (0.3623) | (0.3621) |
| Age 35-44 vs. 65+ | 0.7769* | 0.7712 | 0.7712* |
| | (0.3655) | (0.3943) | (0.3673) |
| Age 45-54 vs. 65+ | 0.3218 | 0.3218 | 0.3218 |
| | (0.4289) | (0.4349) | (0.4313) |
| Age 55-64 vs. 65+ | 0.6146 | 0.6348 | 0.6348 |
| | (0.4649) | (0.4213) | (0.4680) |
| 65+ | 0.0000 | 0.0000 | 0.0000 |
| | (.) | (.) | (.) |
| Log(Bladder Female Rate + 1) | | 0.3465** | 0.3464** |
| | | (0.1186) | (0.1077) |
| _cons | -1.9759*** | -2.6728*** | -2.6727*** |
| | (0.3183) | (0.4371) | (0.4091) |
| Area effect variance | | | |

| var(_cons[FIPS_county]) | 0.0000 | | 0.0000 |
|---|---|---|---|
| | (0.0000) | | (0.0000) |

Number of alternative models used to estimate model error = 1.

## Results by health districts

| County name | County FIPS | Direct estimate | Direct 95% CI | SAE composite | SAE CI |
|---|---|---|---|---|---|
| Augusta County | 51015 | 20.8% | (7.1%, 47.5%) | 17.7% | (14.2%, 21.9%) |
| Bath County | 51017 | .% | (.%, .%) | 8.4% | (5.3%, 13.2%) |
| Caroline County | 51033 | 0.0% | (0.0%, 45.4%) | 8.0% | (5.1%, 12.3%) |
| Clarke County | 51043 | 0.0% | (0.0%, 80.2%) | 17.1% | (13.9%, 20.9%) |
| Culpeper County | 51047 | 13.8% | (2.4%, 69.1%) | 18.3% | (14.5%, 22.9%) |
| Fauquier County | 51061 | 8.3% | (3.1%, 48.2%) | 19.4% | (15.1%, 24.6%) |
| Frederick County | 51069 | 20.3% | (4.6%, 57.6%) | 16.2% | (13.2%, 19.8%) |
| Highland County | 51091 | 100.0% | (0.6%, 100.0%) | 29.4% | (19.4%, 41.9%) |
| King George County | 51099 | 0.0% | (0.0%, 93.7%) | 8.0% | (5.1%, 12.3%) |
| Madison County | 51113 | 0.0% | (0.0%, 69.5%) | 15.3% | (12.4%, 18.7%) |
| Orange County | 51137 | 21.9% | (4.7%, 61.3%) | 19.5% | (15.1%, 24.7%) |
| Page County | 51139 | 0.0% | (0.0%, 44.7%) | 8.4% | (5.2%, 13.3%) |
| Rappahannock County | 51157 | 0.0% | (-0.0%, 94.6%) | 8.0% | (5.0%, 12.6%) |
| Rockbridge County | 51163 | 0.0% | (0.0%, 40.0%) | 17.0% | (13.7%, 20.9%) |
| Rockingham County | 51165 | 17.0% | (4.2%, 49.1%) | 16.0% | (13.6%, 18.7%) |
| Shenandoah County | 51171 | 74.3% | (13.1%, 96.9%) | 14.7% | (11.7%, 18.3%) |
| Spotsylvania County | 51177 | 29.1% | (11.6%, 56.3%) | 15.8% | (13.2%, 18.9%) |
| Stafford County | 51179 | 22.6% | (6.1%, 56.6%) | 16.4% | (13.9%, 19.2%) |
| Warren County | 51187 | 35.3% | (3.3%, 89.8%) | 17.4% | (13.9%, 21.6%) |
| Buena Vista City | 51530 | 0.0% | (0.0%, 90.3%) | 19.7% | (15.4%, 24.9%) |
| Fredericksburg City | 51630 | 25.3% | (3.0%, 78.5%) | 18.9% | (15.4%, 22.8%) |
| Harrisonburg City | 51660 | 0.0% | (0.0%, 71.3%) | 19.5% | (16.5%, 22.9%) |
| Lexington City | 51678 | .% | (.%, .%) | 20.7% | (15.9%, 26.4%) |
| Staunton City | 51790 | 100.0% | (0.6%, 100.0%) | 21.8% | (16.5%, 28.3%) |
| Waynesboro | 51820 | 59.7% | (6.1%, 97.1%) | 22.7% | (16.9%, 29.8%) |

| City | | | | | |
|---|---|---|---|---|---|
| Winchester City | 51840 | 48.9% | (2.4%, 97.4%) | 8.3% | (5.2%, 12.9%) |

| County name | County FIPS | Direct estimate | Direct 95% CI | SAE composite | SAE CI |
|---|---|---|---|---|---|
| Albemarle County | 51003 | 12.2% | (2.8%, 40.3%) | 10.2% | (7.3%, 14.1%) |
| Alleghany County | 51005 | 21.5% | (4.0%, 64.6%) | 15.0% | (11.9%, 18.7%) |
| Amherst County | 51009 | 41.5% | (9.6%, 82.5%) | 16.0% | (12.8%, 19.8%) |
| Appomattox County | 51011 | 0.0% | (0.0%, 43.4%) | 8.0% | (5.0%, 12.7%) |
| Arlington City | 51013 | 27.6% | (7.9%, 62.9%) | 16.3% | (13.6%, 19.4%) |
| Bedford County | 51019 | 9.3% | (4.7%, 33.0%) | 17.8% | (14.0%, 22.3%) |
| Botetourt County | 51023 | 61.4% | (21.8%, 90.1%) | 15.9% | (12.6%, 19.8%) |
| Campbell County | 51031 | 10.8% | (1.6%, 47.0%) | 12.3% | (9.6%, 15.5%) |
| Craig County | 51045 | 0.0% | (0.0%, 96.6%) | 8.2% | (5.1%, 12.9%) |
| Fairfax County | 51059 | 24.9% | (15.5%, 37.4%) | 14.0% | (11.4%, 17.1%) |
| Fluvanna County | 51065 | 0.0% | (0.0%, 99.4%) | 16.9% | (13.5%, 21.1%) |
| Greene County | 51079 | .% | (.%, .%) | 8.7% | (5.6%, 13.2%) |
| Loudoun County | 51107 | 16.9% | (8.3%, 31.4%) | 13.3% | (10.8%, 16.2%) |
| Louisa County | 51109 | 0.0% | (0.0%, 49.1%) | 12.0% | (9.2%, 15.5%) |
| Nelson County | 51125 | 80.6% | (2.6%, 99.6%) | 20.7% | (15.5%, 27.1%) |
| Prince William County | 51153 | 20.2% | (10.5%, 35.4%) | 13.4% | (11.1%, 16.0%) |
| Roanoke County | 51161 | 14.3% | (4.1%, 39.5%) | 17.0% | (13.5%, 21.2%) |
| Alexandria City | 51510 | 18.6% | (6.1%, 49.9%) | 12.3% | (10.1%, 15.0%) |
| Charlottesville City | 51540 | 4.8% | (1.8%, 48.0%) | 24.8% | (18.3%, 32.5%) |
| Covington City | 51580 | 0.0% | (0.0%, 99.4%) | 26.9% | (18.2%, 37.9%) |
| Fairfax City | 51600 | 0.0% | (-0.0%, 93.8%) | 17.1% | (13.7%, 21.1%) |
| Falls Church City | 51610 | 0.0% | (0.0%, 99.4%) | 7.3% | (4.6%, 11.6%) |
| Lynchburg City | 51680 | 18.4% | (3.4%, 58.7% | 15.2% | (13.0%, 17.7%) |
| Manassas City | 51683 | 67.9% | (3.6%, 98.9%) | 7.2% | (4.5%, 11.3%) |
| Manassas Park City | 51685 | 0.0% | (0.0%, 99.4%) | 7.2% | (4.5%, 11.3%) |
| Salem City | 51775 | 2.0% | (0.3%, 82.1%) | 16.3% | (13.4%, 19.7%) |

| County name | County FIPS | Direct estimate | Direct 95% CI | SAE composite | SAE CI |
|---|---|---|---|---|---|
| Bland County | 51021 | 0.0% | (0.0%, 95.7%) | 20.1% | (15.4%, 25.9%) |
| Buchanan County | 51027 | 26.0% | (3.1%, 79.5%) | 8.5% | (5.2%, 13.4%) |
| Carroll County | 51035 | 41.8% | (6.5%, 88.1%) | 14.6% | (11.4%, 18.4%) |
| Dickenson County | 51051 | 0.0% | (0.0%, 53.0%) | 8.5% | (5.2%, 13.4%) |
| Floyd County | 51063 | 21.5% | (2.7%, 72.7%) | 18.6% | (15.9%, 21.6%) |
| Franklin County | 51067 | 15.9% | (2.0%, 63.7%) | 15.3% | (12.2%, 19.1%) |
| Giles County | 51071 | 0.0% | (0.0%, 84.2%) | 9.8% | (6.4%, 14.8%) |
| Grayson County | 51077 | 32.5% | (3.4%, 86.9%) | 8.3% | (5.1%, 13.3%) |
| Henry County | 51089 | 14.5% | (2.2%, 56.2%) | 12.9% | (10.3%, 16.1%) |
| Lee County | 51105 | 0.0% | (0.0%, 74.0%) | 15.1% | (11.9%, 19.0%) |
| Montgomery County | 51121 | 46.1% | (20.5%, 74.0%) | 19.9% | (16.9%, 23.3%) |
| Patrick County | 51141 | 19.5% | (2.3%, 80.5%) | 12.8% | (10.2%, 16.0%) |
| Pittsylvania County | 51143 | 41.3% | (18.9%, 68.0%) | 12.8% | (10.2%, 16.0%) |
| Pulaski County | 51155 | 22.8% | (5.1%, 61.8%) | 18.2% | (15.6%, 21.2%) |
| Russell County | 51167 | 44.6% | (13.2%, 81.0%) | 14.4% | (11.3%, 18.3%) |
| Scott County | 51169 | 0.0% | (0.0%, 56.7%) | 8.5% | (5.2%, 13.4%) |
| Smyth County | 51173 | 7.2% | (1.1%, 35.3%) | 13.7% | (10.6%, 17.5%) |
| Tazewell County | 51185 | 2.7% | (1.2%, 43.4%) | 14.8% | (11.6%, 18.6%) |
| Washington County | 51191 | 7.6% | (3.0%, 38.8%) | 15.2% | (12.0%, 19.1%) |
| Wise County | 51195 | 23.6% | (6.7%, 57.3%) | 16.8% | (13.3%, 21.0%) |
| Wythe County | 51197 | 9.4% | (1.6%, 76.7%) | 20.2% | (15.4%, 26.0%) |
| Bristol City | 51520 | 0.0% | (0.0%, 99.4%) | 14.9% | (11.7%, 18.7%) |
| Danville City | 51590 | 0.0% | (-0.0%, 91.0%) | 15.2% | (12.1%, 18.9%) |
| Galax City | 51640 | .% | (.%, .%) | 23.4% | (16.9%, 31.4%) |
| Martinsville City | 51690 | 0.0% | (0.0%, 99.4%) | 7.3% | (4.5%, 11.5%) |
| Norton City | 51720 | .% | (.%, .%) | 8.5% | (5.2%, 13.4%) |
| Radford City | 51750 | 36.3% | (3.6%, 89.7%) | 9.8% | (6.4%, 14.8%) |
| Roanoke City | 51770 | 26.9% | (9.7%, 55.6%) | 15.9% | (13.1%, 19.2%) |

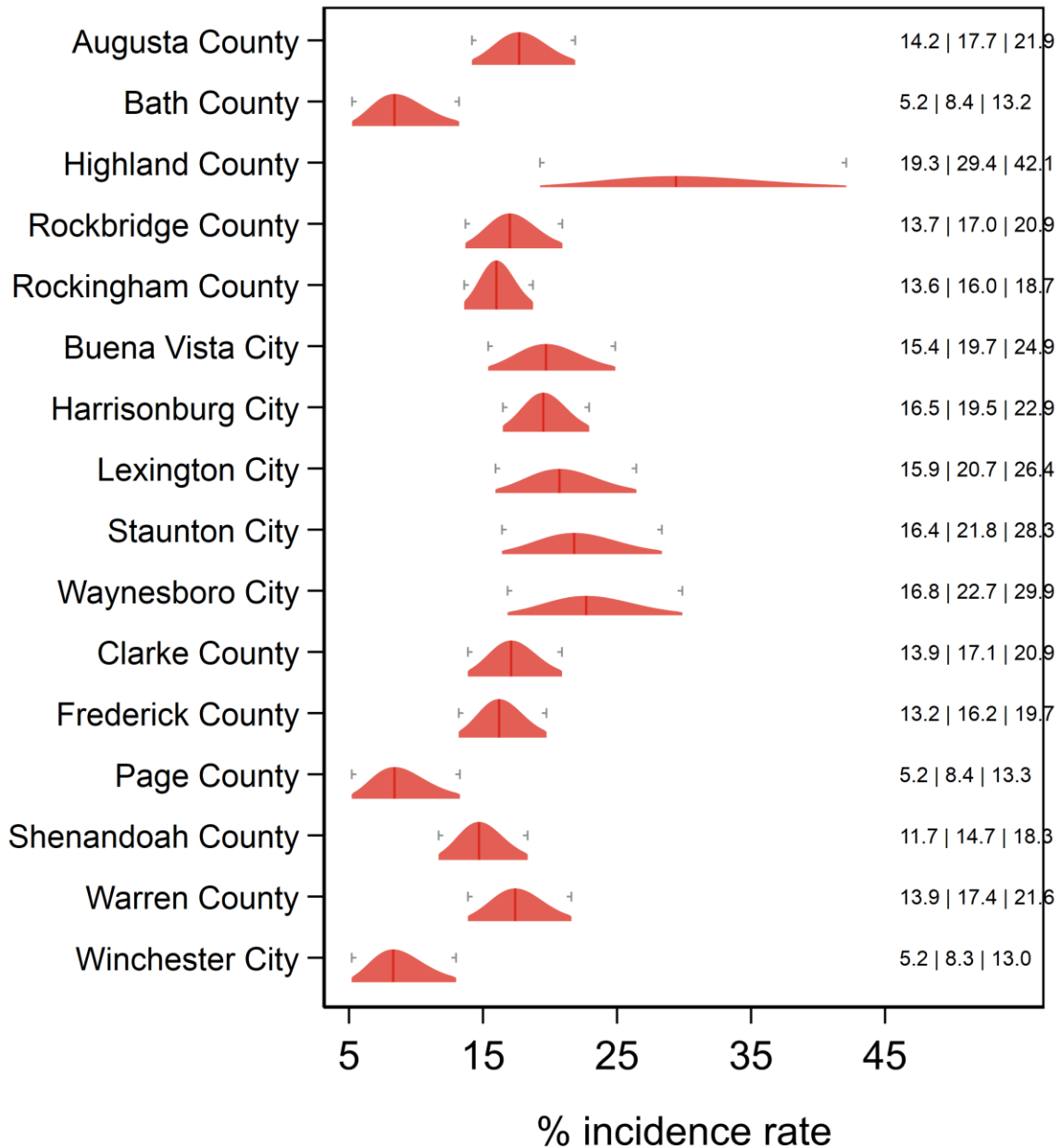| County name | County FIPS | Direct estimate | Direct 95% CI | SAE composite | SAE CI |
|---|---|---|---|---|---|
| Amelia County | 51007 | 30.4% | (3.2%, 89.1%) | 7.4% | (4.6%, 11.6%) |
| Brunswick County | 51025 | 0.0% | (0.0%, 86.1%) | 14.3% | (11.6%, 17.5%) |
| Buckingham County | 51029 | 0.0% | (0.0%, 87.7%) | 7.4% | (4.6%, 11.6%) |
| Charles City County | 51036 | .% | (.%, .%) | 8.1% | (5.0%, 12.7%) |
| Charlotte County | 51037 | 0.0% | (0.0%, 68.3%) | 15.0% | (12.1%, 18.3%) |
| Chesterfield County | 51041 | 15.0% | (6.6%, 30.5%) | 14.3% | (11.8%, 17.1%) |
| Cumberland County | 51049 | 0.0% | (0.0%, 99.4%) | 7.4% | (4.6%, 11.6%) |
| Dinwiddie County | 51053 | 0.0% | (-0.0%, 39.2%) | 6.9% | (4.4%, 10.9%) |
| Goochland County | 51075 | 0.0% | (0.0%, 93.1%) | 8.1% | (5.0%, 12.7%) |
| Greensville County | 51081 | 100.0% | (0.6%, 100.0%) | 6.9% | (4.4%, 10.9%) |
| Halifax County | 51083 | 48.1% | (8.2%, 90.5%) | 15.9% | (12.7%, 19.6%) |
| Hanover County | 51085 | 19.0% | (2.8%, 65.1%) | 15.5% | (12.5%, 19.1%) |
| Henrico County | 51087 | 8.5% | (2.3%, 26.4%) | 11.9% | (9.6%, 14.6%) |
| Lunenburg County | 51111 | .% | (.%, .%) | 7.4% | (4.6%, 11.6%) |
| Mecklenburg County | 51117 | 0.0% | (0.0%, 27.2%) | 7.4% | (4.6%, 11.6%) |
| New Kent County | 51127 | 48.3% | (7.6%, 91.3%) | 8.1% | (5.0%, 12.7%) |
| Nottoway County | 51135 | 16.5% | (4.1%, 66.8%) | 7.4% | (4.6%, 11.6%) |
| Powhatan County | 51145 | 2.7% | (0.3%, 88.5%) | 13.2% | (10.4%, 16.6%) |
| Prince Edward County | 51147 | 31.4% | (1.0%, 96.5%) | 7.4% | (4.6%, 11.6%) |
| Prince George County | 51149 | 39.4% | (7.8%, 83.3%) | 6.9% | (4.4%, 10.9%) |
| Surry County | 51181 | 62.8% | (3.5%, 98.6%) | 16.3% | (12.8%, 20.4%) |
| Sussex County | 51183 | 0.0% | (-0.0%, 61.4%) | 17.9% | (13.6%, 23.0%) |
| Colonial Heights City | 51570 | 26.0% | (6.8%, 62.8%) | 11.1% | (8.8%, 13.9%) |
| Emporia City | 51595 | 0.0% | (0.0%, 99.4%) | 6.9% | (4.4%, 10.9%) |
| Hopewell City | 51670 | 7.7% | (1.9%, 65.7%) | 12.8% | (10.5%, 15.7%) |
| Petersburg | 51730 | 39.2% | (4.7%, 89.4%) | 16.6% | (13.0%, 20.9%) |

| City | | | | | |
|---|---|---|---|---|---|
| Richmond City | 51760 | 18.6% | (7.4%, 39.4%) | 11.5% | (9.4%, 14.1%) |

| County name | County FIPS | Direct estimate | Direct 95% CI | SAE composite | SAE CI |
|---|---|---|---|---|---|
| Accomack County | 51001 | 37.6% | (11.5%, 73.7%) | 17.4% | (13.3%, 22.5%) |
| Essex County | 51057 | 61.1% | (8.8%, 96.2%) | 17.1% | (13.1%, 22.1%) |
| Gloucester County | 51073 | 26.2% | (3.5%, 77.7%) | 17.8% | (13.4%, 23.1%) |
| Isle of Wight County | 51093 | 68.4% | (8.7%, 98.0%) | 15.0% | (12.1%, 18.4%) |
| James City County | 51095 | 14.8% | (2.7%, 52.1%) | 15.3% | (12.6%, 18.5%) |
| King and Queen County | 51097 | 0.0% | (-0.0%, 94.1%) | 7.2% | (4.4%, 11.5%) |
| King William County | 51101 | 18.6% | (2.9%, 63.3%) | 16.8% | (13.5%, 20.8%) |
| Lancaster County | 51103 | 40.9% | (4.0%, 92.0%) | 13.5% | (10.6%, 17.0%) |
| Mathews County | 51115 | 34.1% | (3.5%, 88.2%) | 15.4% | (12.1%, 19.5%) |
| Middlesex County | 51119 | 71.3% | (14.6%, 97.3%) | 16.8% | (12.9%, 21.5%) |
| Northampton County | 51131 | 24.0% | (2.4%, 89.0%) | 17.3% | (13.2%, 22.4%) |
| Northumberland County | 51133 | 0.0% | (0.0%, 99.4%) | 7.2% | (4.4%, 11.5%) |
| Richmond County | 51159 | 35.3% | (11.1%, 70.3%) | 13.6% | (10.7%, 17.1%) |
| Southampton County | 51175 | 8.5% | (2.0%, 64.7%) | 7.1% | (4.5%, 11.2%) |
| Westmoreland County | 51193 | 11.5% | (2.2%, 57.5%) | 7.2% | (4.4%, 11.5%) |
| York County | 51199 | 13.1% | (3.6%, 37.7%) | 16.3% | (13.3%, 19.7%) |
| Chesapeake City | 51550 | 29.8% | (13.9%, 52.8%) | 16.8% | (13.7%, 20.4%) |
| Franklin City | 51620 | .% | (.%, .%) | 7.1% | (4.5%, 11.2%) |
| Hampton City | 51650 | 25.0% | (11.3%, 46.6%) | 15.6% | (12.5%, 19.2%) |
| Newport News City | 51700 | 23.7% | (10.5%, 45.3%) | 13.0% | (10.9%, 15.3%) |
| Norfolk City | 51710 | 21.2% | (8.8%, 42.9%) | 14.4% | (12.5%, 16.7%) |
| Poquoson City | 51735 | 0.0% | (0.0%, 91.2%) | 16.8% | (13.7%, 20.4%) |
| Portsmouth City | 51740 | 43.4% | (19.1%, 71.4%) | 15.2% | (12.4%, 18.5%) |
| Suffolk City | 51800 | 26.3% | (7.4%, 61.4%) | 10.8% | (8.4%, 13.9%) |
| Virginia Beach City | 51810 | 28.8% | (16.4%, 45.4%) | 16.8% | (14.0%, 20.1%) |
| Williamsburg City | 51830 | 37.3% | (1.4%, 96.5%) | 20.2% | (15.6%, 25.8%) |

# Current E-Cigarette Use
# Central Shenandoah and Lord Fairfax HDs

| County | LCB \| Point \| UCB |
|---|---|
| Augusta County | 14.2 \| 17.7 \| 21.9 |
| Bath County | 5.2 \| 8.4 \| 13.2 |
| Highland County | 19.3 \| 29.4 \| 42.1 |
| Rockbridge County | 13.7 \| 17.0 \| 20.9 |
| Rockingham County | 13.6 \| 16.0 \| 18.7 |
| Buena Vista City | 15.4 \| 19.7 \| 24.9 |
| Harrisonburg City | 16.5 \| 19.5 \| 22.9 |
| Lexington City | 15.9 \| 20.7 \| 26.4 |
| Staunton City | 16.4 \| 21.8 \| 28.3 |
| Waynesboro City | 16.8 \| 22.7 \| 29.9 |
| Clarke County | 13.9 \| 17.1 \| 20.9 |
| Frederick County | 13.2 \| 16.2 \| 19.7 |
| Page County | 5.2 \| 8.4 \| 13.3 |
| Shenandoah County | 11.7 \| 14.7 \| 18.3 |
| Warren County | 13.9 \| 17.4 \| 21.6 |
| Winchester City | 5.2 \| 8.3 \| 13.0 |

% incidence rate

Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
Gray markers: 95% confidence interval

# Current E-Cigarette Use
## Alleghany, Roanoke and Central Virginia HDs
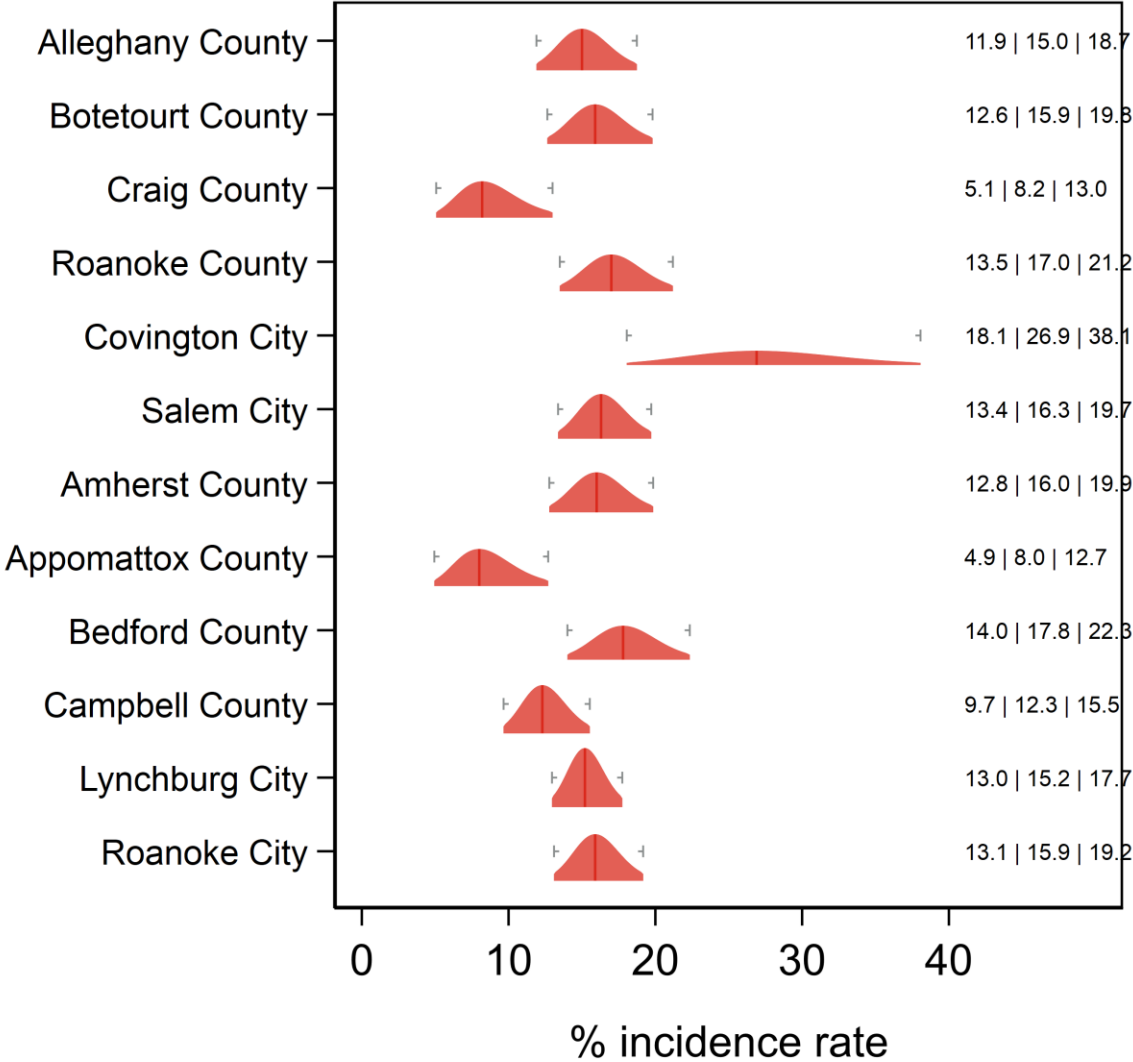
| County/City | Values |
|---|---|
| Alleghany County | 11.9 \| 15.0 \| 18.7 |
| Botetourt County | 12.6 \| 15.9 \| 19.8 |
| Craig County | 5.1 \| 8.2 \| 13.0 |
| Roanoke County | 13.5 \| 17.0 \| 21.2 |
| Covington City | 18.1 \| 26.9 \| 38.1 |
| Salem City | 13.4 \| 16.3 \| 19.7 |
| Amherst County | 12.8 \| 16.0 \| 19.9 |
| Appomattox County | 4.9 \| 8.0 \| 12.7 |
| Bedford County | 14.0 \| 17.8 \| 22.3 |
| Campbell County | 9.7 \| 12.3 \| 15.5 |
| Lynchburg City | 13.0 \| 15.2 \| 17.7 |
| Roanoke City | 13.1 \| 15.9 \| 19.2 |

% incidence rate

Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
Gray markers: 95% confidence interval

# Current E-Cigarette Use
## Cumberland Plateau and Lenowisco HDs
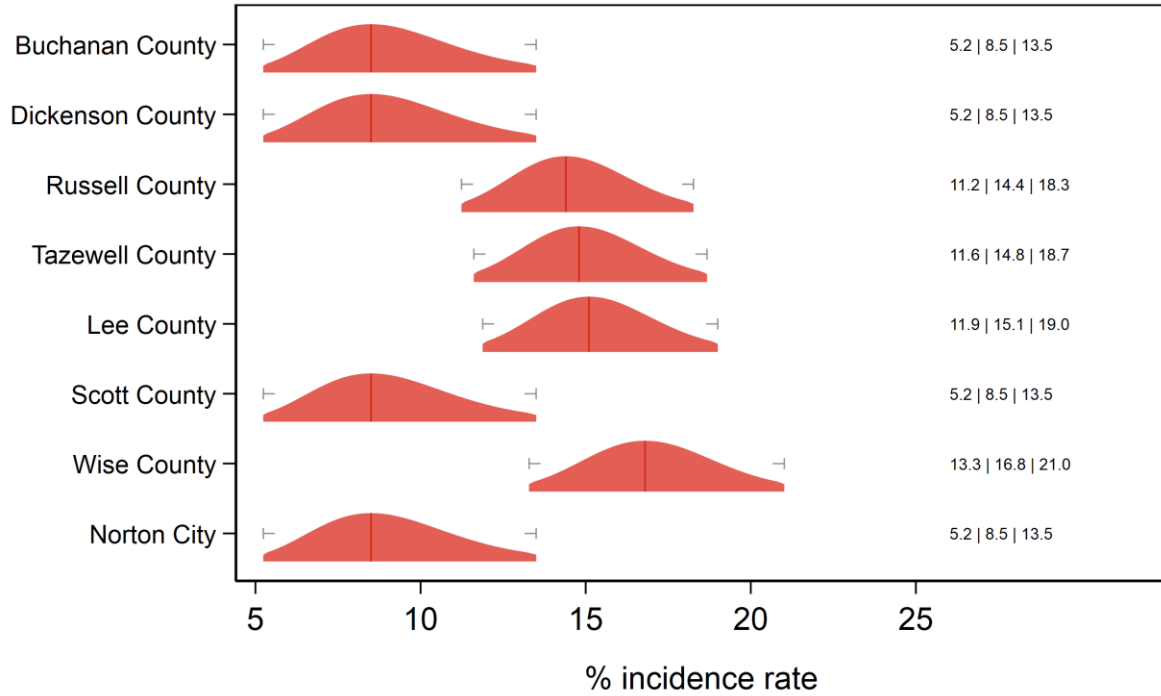


| County | 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB |
|---|---|---|---|
| Buchanan County | 5.2 | 8.5 | 13.5 |
| Dickenson County | 5.2 | 8.5 | 13.5 |
| Russell County | 11.2 | 14.4 | 18.3 |
| Tazewell County | 11.6 | 14.8 | 18.7 |
| Lee County | 11.9 | 15.1 | 19.0 |
| Scott County | 5.2 | 8.5 | 13.5 |
| Wise County | 13.3 | 16.8 | 21.0 |
| Norton City | 5.2 | 8.5 | 13.5 |

% incidence rate

Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
Gray markers: 95% confidence interval

# Current E-Cigarette Use
## Pittsylvania/Danville, Southside and West Piedmont HDs



| | LCB | Point | UCB |
|---|---|---|---|
| Pittsylvania County | 10.2 | 12.8 | 16.0 |
| Danville City | 12.1 | 15.2 | 18.9 |
| Franklin County | 12.1 | 15.3 | 19.1 |
| Henry County | 10.3 | 12.9 | 16.1 |
| Patrick County | 10.2 | 12.8 | 16.0 |
| Martinsville City | 4.5 | 7.3 | 11.6 |
| Brunswick County | 11.6 | 14.3 | 17.5 |
| Halifax County | 12.8 | 15.9 | 19.6 |
| Mecklenburg County | 4.6 | 7.4 | 11.6 |

% incidence rate

Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
Gray markers: 95% confidence interval

# Current E-Cigarette Use
## New River and Mount Rogers HDs



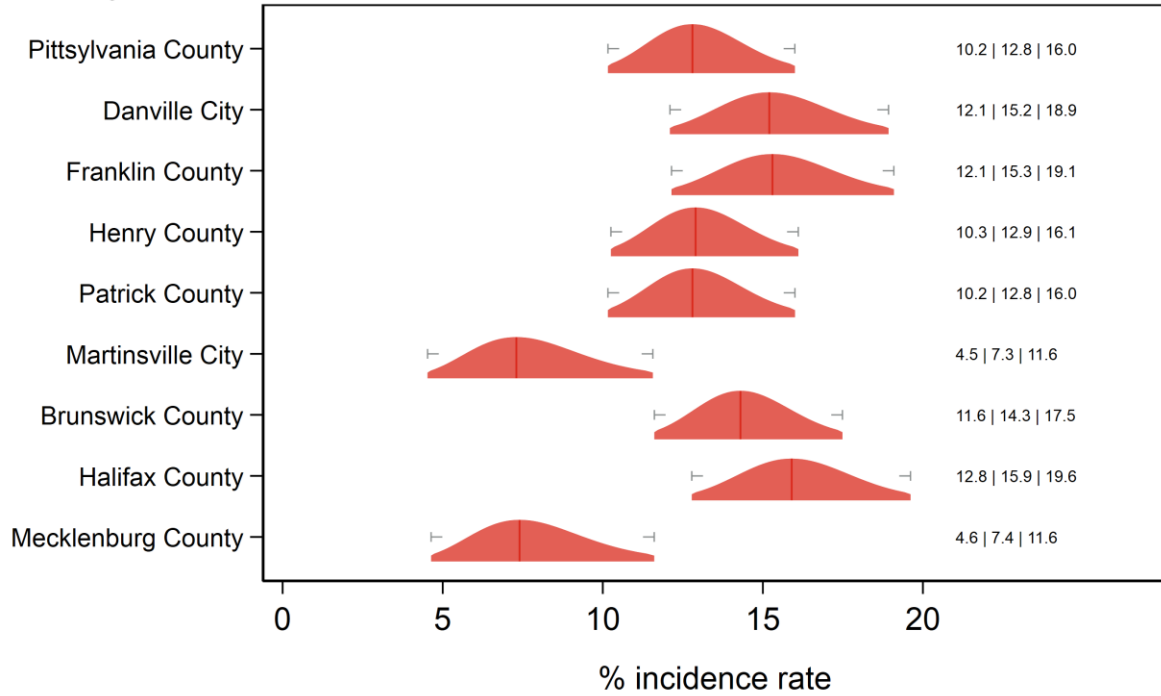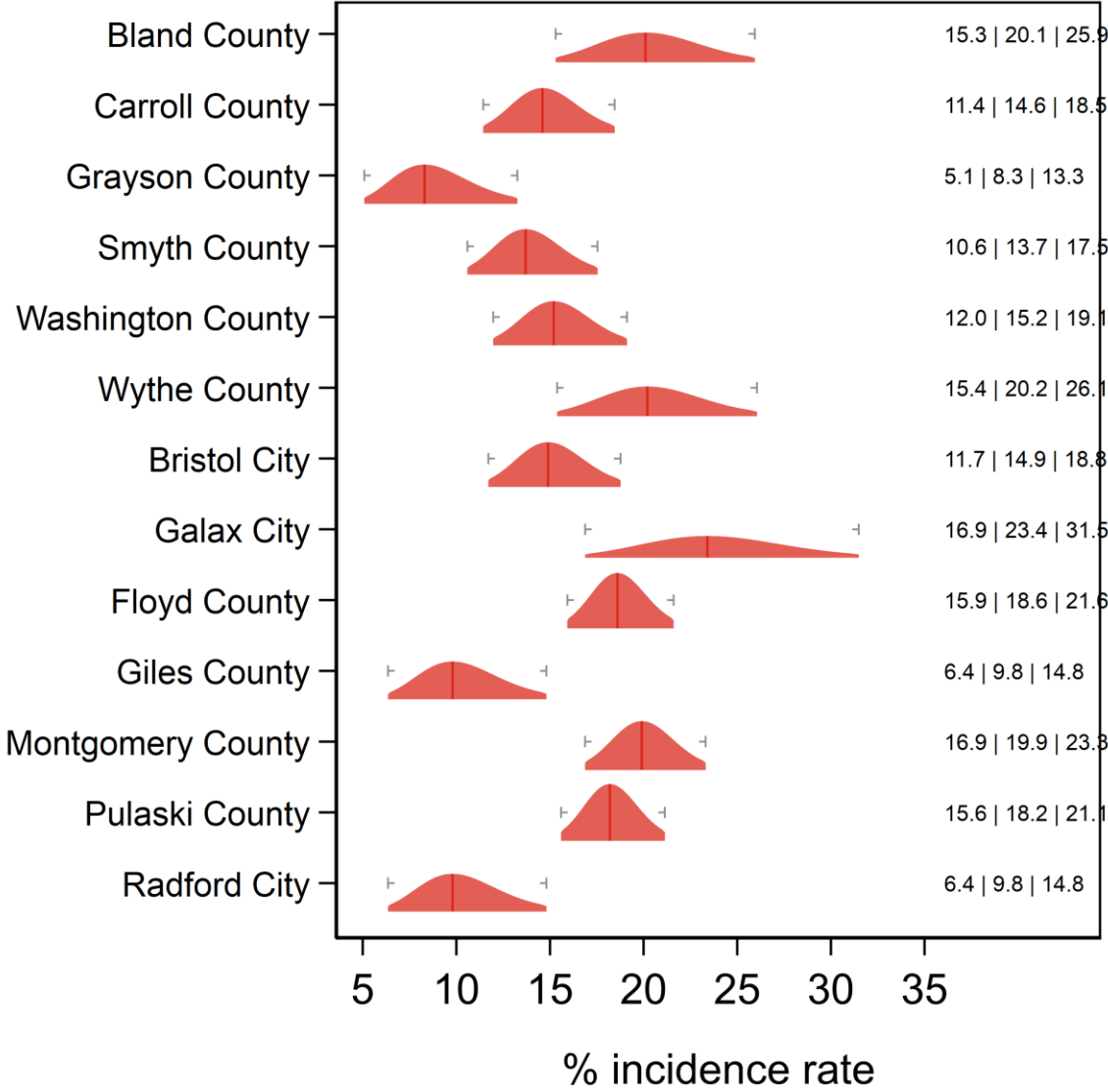| County/City | LCB \| Point Estimate \| UCB |
|---|---|
| Bland County | 15.3 \| 20.1 \| 25.9 |
| Carroll County | 11.4 \| 14.6 \| 18.5 |
| Grayson County | 5.1 \| 8.3 \| 13.3 |
| Smyth County | 10.6 \| 13.7 \| 17.5 |
| Washington County | 12.0 \| 15.2 \| 19.1 |
| Wythe County | 15.4 \| 20.2 \| 26.1 |
| Bristol City | 11.7 \| 14.9 \| 18.8 |
| Galax City | 16.9 \| 23.4 \| 31.5 |
| Floyd County | 15.9 \| 18.6 \| 21.6 |
| Giles County | 6.4 \| 9.8 \| 14.8 |
| Montgomery County | 16.9 \| 19.9 \| 23.3 |
| Pulaski County | 15.6 \| 18.2 \| 21.1 |
| Radford City | 6.4 \| 9.8 \| 14.8 |

% incidence rate

Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
Gray markers: 95% confidence interval

# Current E-Cigarette Use
## Chesterfield, Chickahominy, Henrico and Richmond HDs
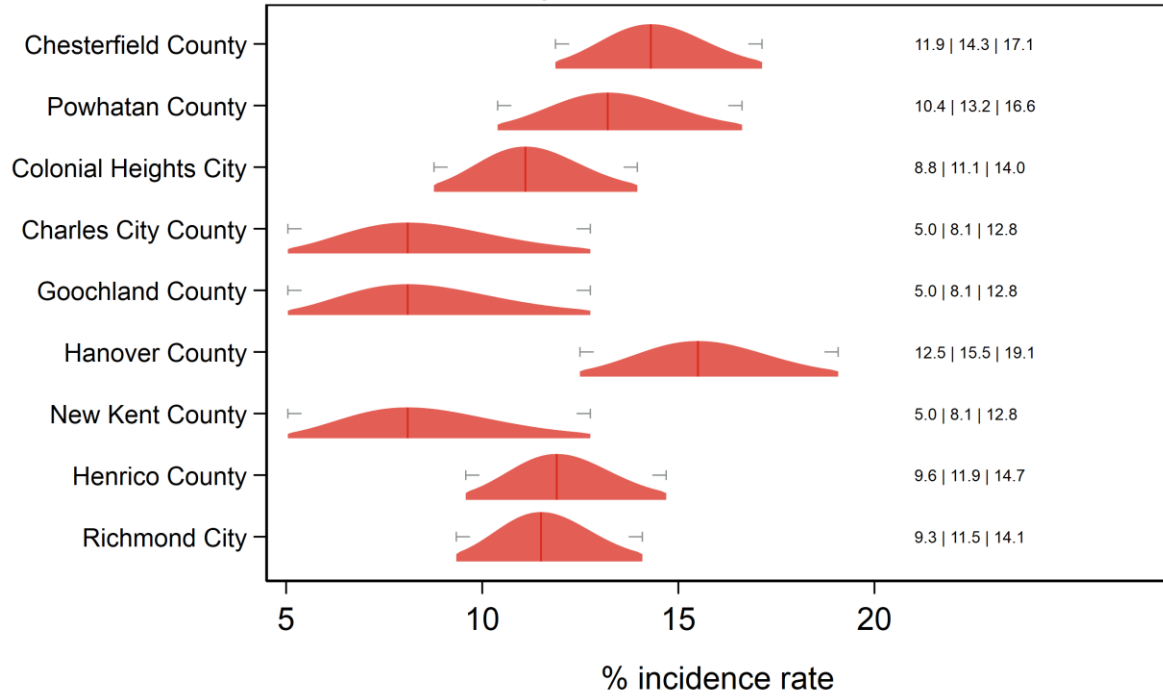


| County/City | 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB |
|---|---|---|---|
| Chesterfield County | 11.9 | 14.3 | 17.1 |
| Powhatan County | 10.4 | 13.2 | 16.6 |
| Colonial Heights City | 8.8 | 11.1 | 14.0 |
| Charles City County | 5.0 | 8.1 | 12.8 |
| Goochland County | 5.0 | 8.1 | 12.8 |
| Hanover County | 12.5 | 15.5 | 19.1 |
| New Kent County | 5.0 | 8.1 | 12.8 |
| Henrico County | 9.6 | 11.9 | 14.7 |
| Richmond City | 9.3 | 11.5 | 14.1 |

% incidence rate

Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
Gray markers: 95% confidence interval

# Current E-Cigarette Use
## Crater, Peninsula and Hampton HDs

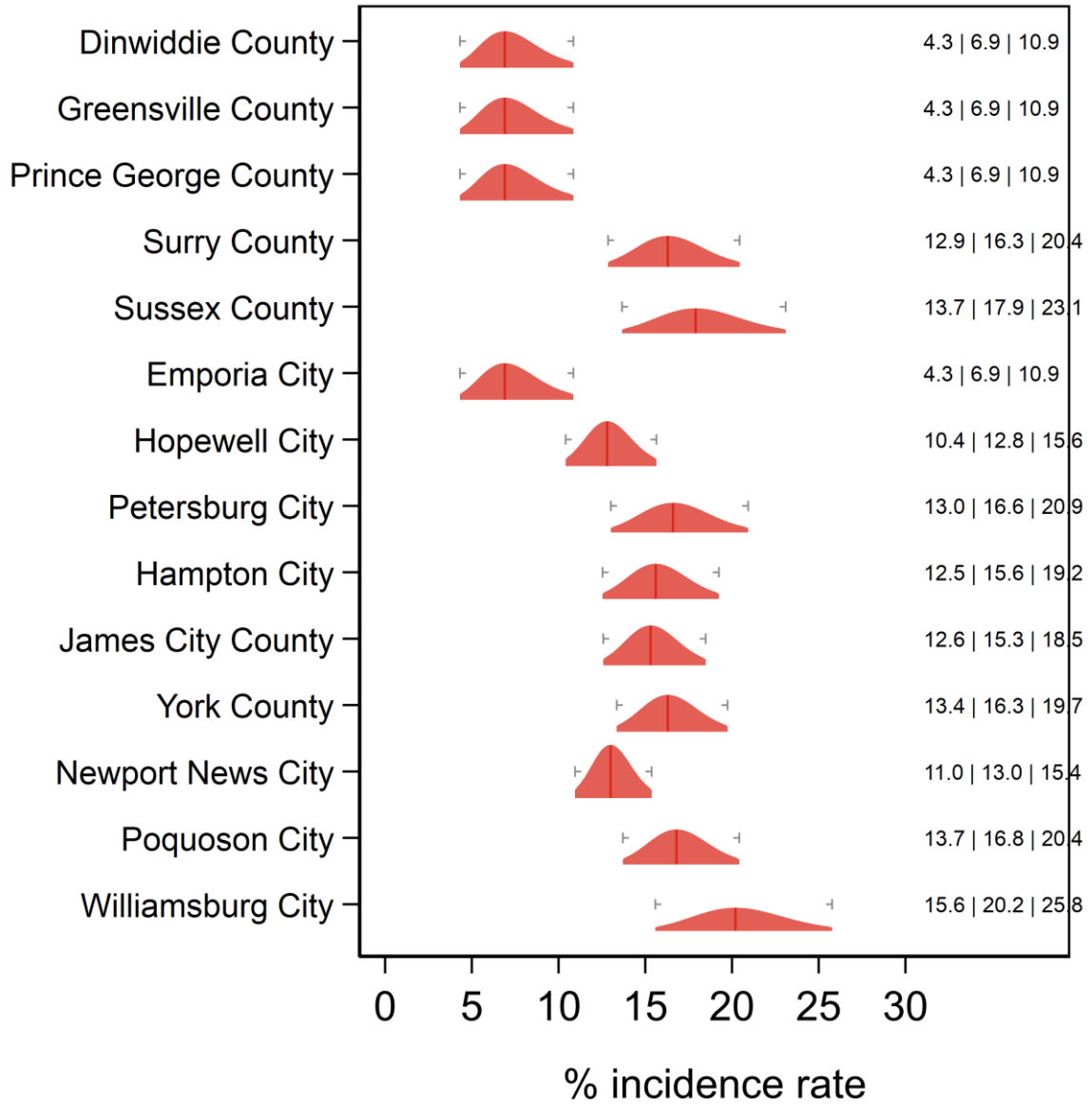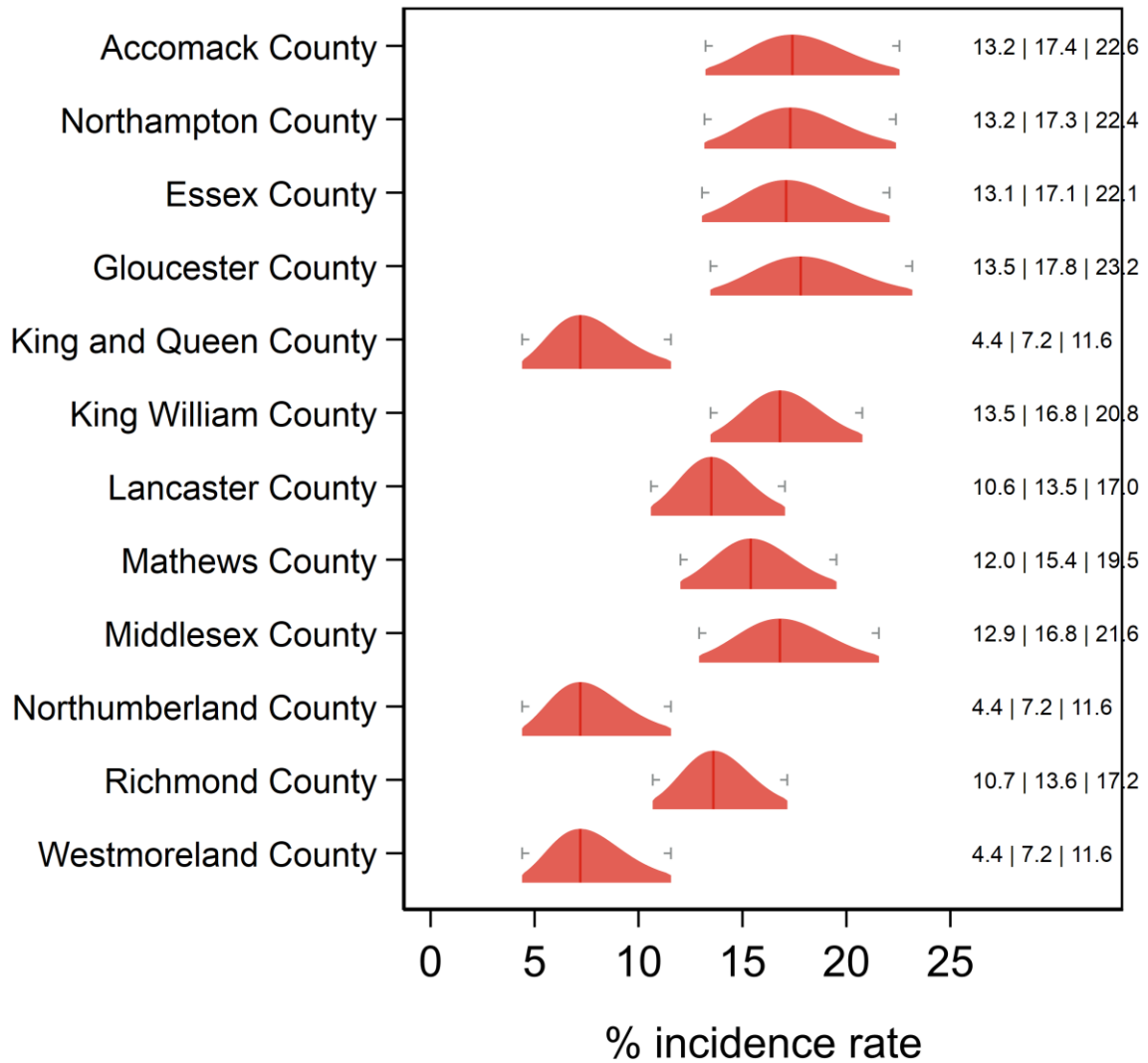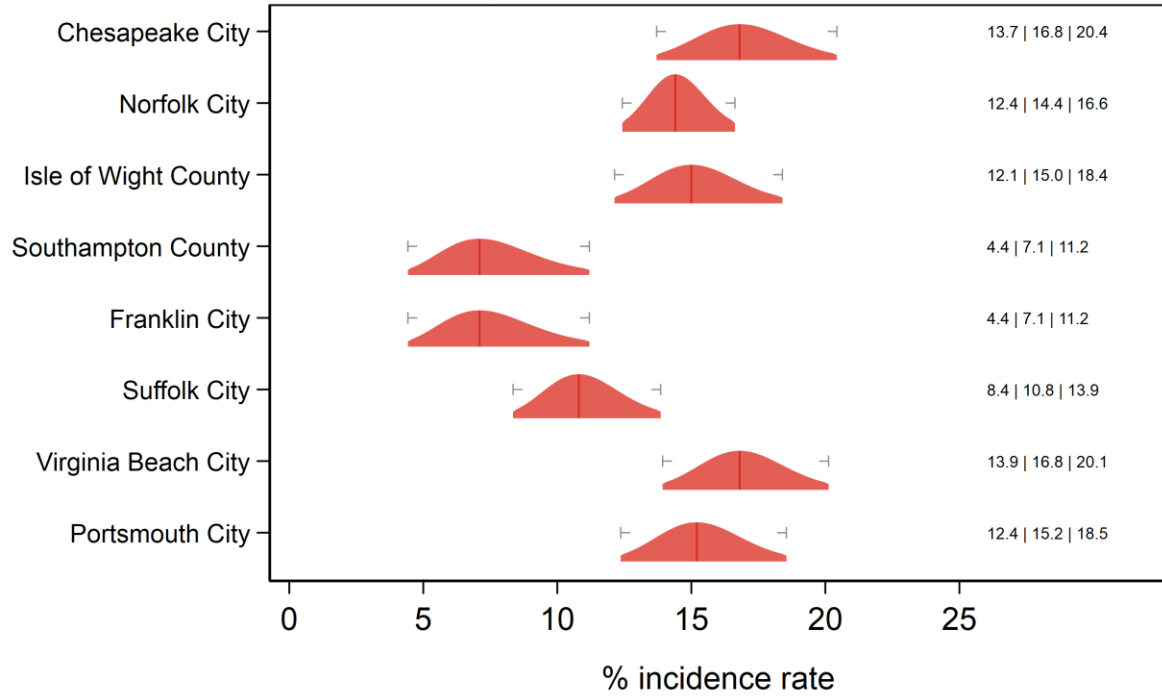| County/City | 2-sided 95% LCB \| Point Estimate \| 2-sided 95% UCB |
|---|---|
| Dinwiddie County | 4.3 \| 6.9 \| 10.9 |
| Greensville County | 4.3 \| 6.9 \| 10.9 |
| Prince George County | 4.3 \| 6.9 \| 10.9 |
| Surry County | 12.9 \| 16.3 \| 20.4 |
| Sussex County | 13.7 \| 17.9 \| 23.1 |
| Emporia City | 4.3 \| 6.9 \| 10.9 |
| Hopewell City | 10.4 \| 12.8 \| 15.6 |
| Petersburg City | 13.0 \| 16.6 \| 20.9 |
| Hampton City | 12.5 \| 15.6 \| 19.2 |
| James City County | 12.6 \| 15.3 \| 18.5 |
| York County | 13.4 \| 16.3 \| 19.7 |
| Newport News City | 11.0 \| 13.0 \| 15.4 |
| Poquoson City | 13.7 \| 16.8 \| 20.4 |
| Williamsburg City | 15.6 \| 20.2 \| 25.8 |

% incidence rate

Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
Gray markers: 95% confidence interval

# Current E-Cigarette Use
## Eastern Shore and Three Rivers HDs

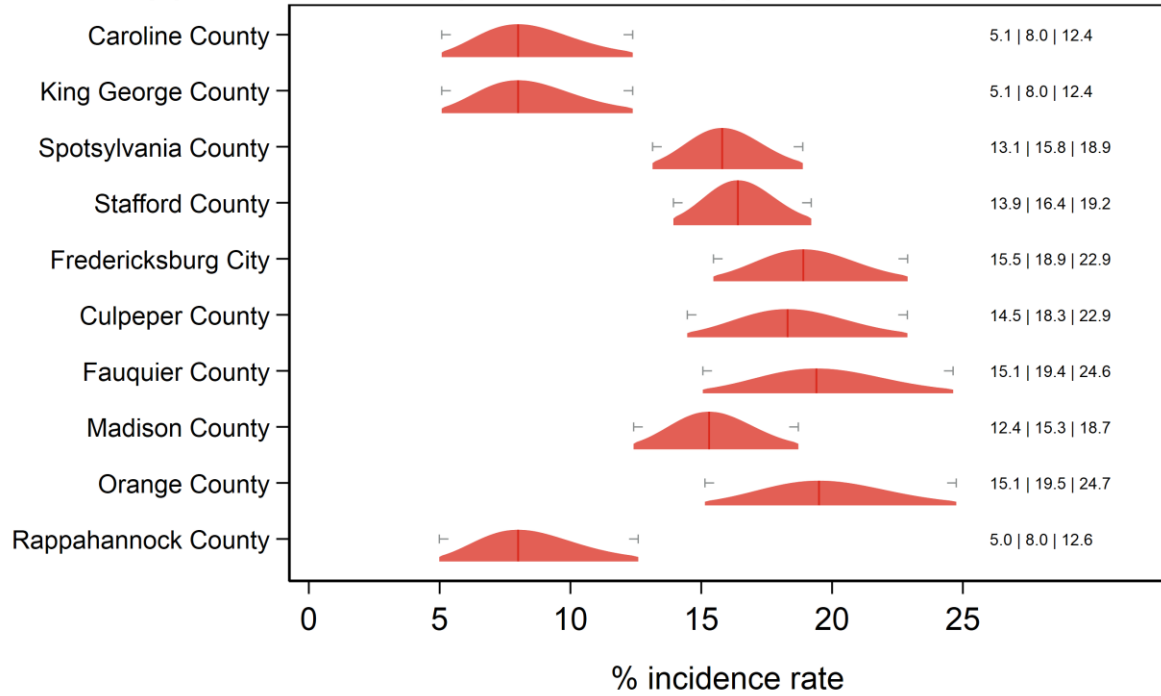| County | LCB \| Point Estimate \| UCB |
|---|---|
| Accomack County | 13.2 \| 17.4 \| 22.6 |
| Northampton County | 13.2 \| 17.3 \| 22.4 |
| Essex County | 13.1 \| 17.1 \| 22.1 |
| Gloucester County | 13.5 \| 17.8 \| 23.2 |
| King and Queen County | 4.4 \| 7.2 \| 11.6 |
| King William County | 13.5 \| 16.8 \| 20.8 |
| Lancaster County | 10.6 \| 13.5 \| 17.0 |
| Mathews County | 12.0 \| 15.4 \| 19.5 |
| Middlesex County | 12.9 \| 16.8 \| 21.6 |
| Northumberland County | 4.4 \| 7.2 \| 11.6 |
| Richmond County | 10.7 \| 13.6 \| 17.2 |
| Westmoreland County | 4.4 \| 7.2 \| 11.6 |

% incidence rate

Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
Gray markers: 95% confidence interval

Current E-Cigarette Use
Norfolk,Portsmouth,Chesapeake,VA Beach,W. Tidewater HDs

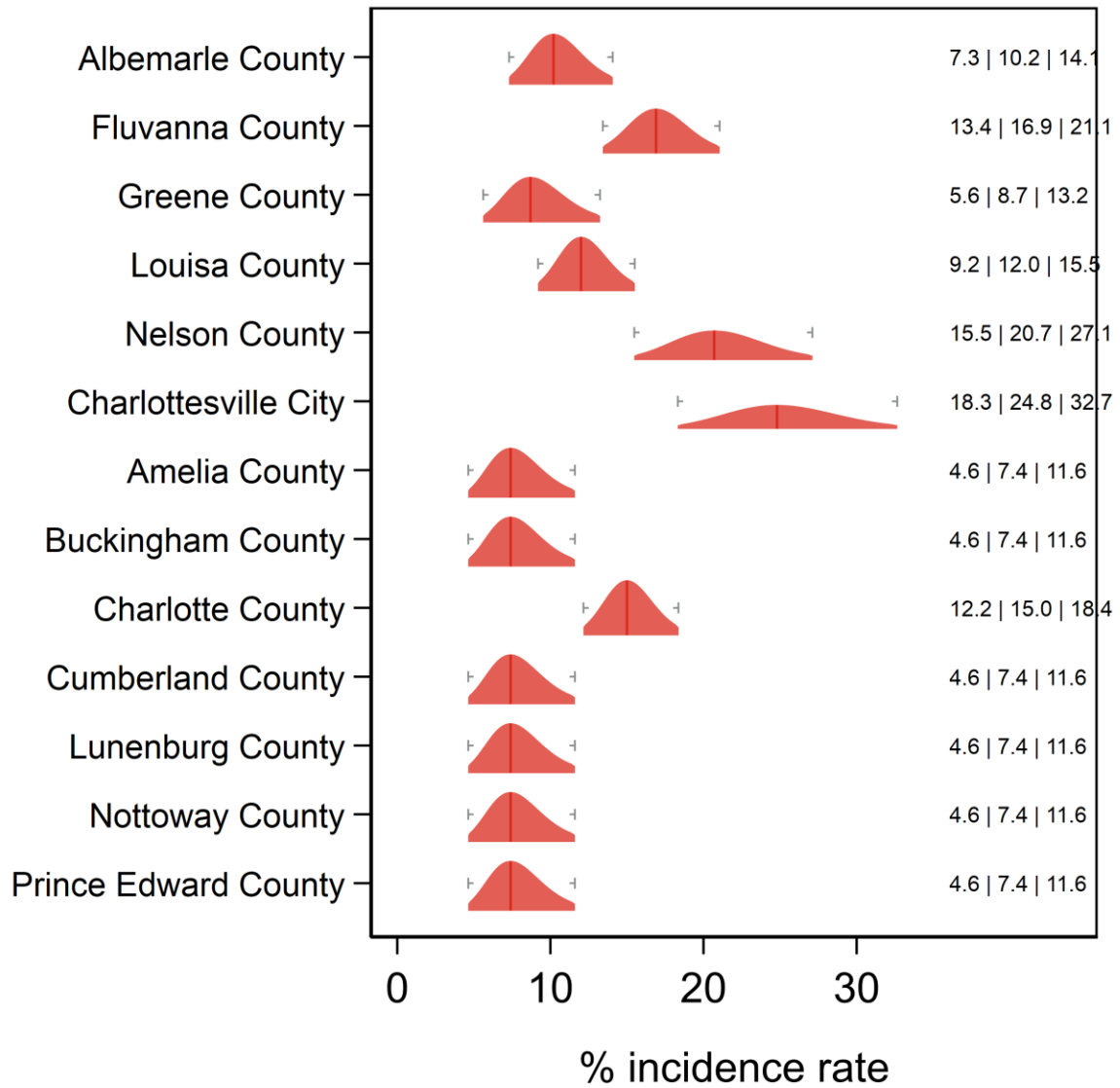| Location | LCB \| Point Estimate \| UCB |
|---|---|
| Chesapeake City | 13.7 \| 16.8 \| 20.4 |
| Norfolk City | 12.4 \| 14.4 \| 16.6 |
| Isle of Wight County | 12.1 \| 15.0 \| 18.4 |
| Southampton County | 4.4 \| 7.1 \| 11.2 |
| Franklin City | 4.4 \| 7.1 \| 11.2 |
| Suffolk City | 8.4 \| 10.8 \| 13.9 |
| Virginia Beach City | 13.9 \| 16.8 \| 20.1 |
| Portsmouth City | 12.4 \| 15.2 \| 18.5 |

% incidence rate

Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
Gray markers: 95% confidence interval

## Current E-Cigarette Use
## Rappahannock/Rapidan and Rappahannock HDs

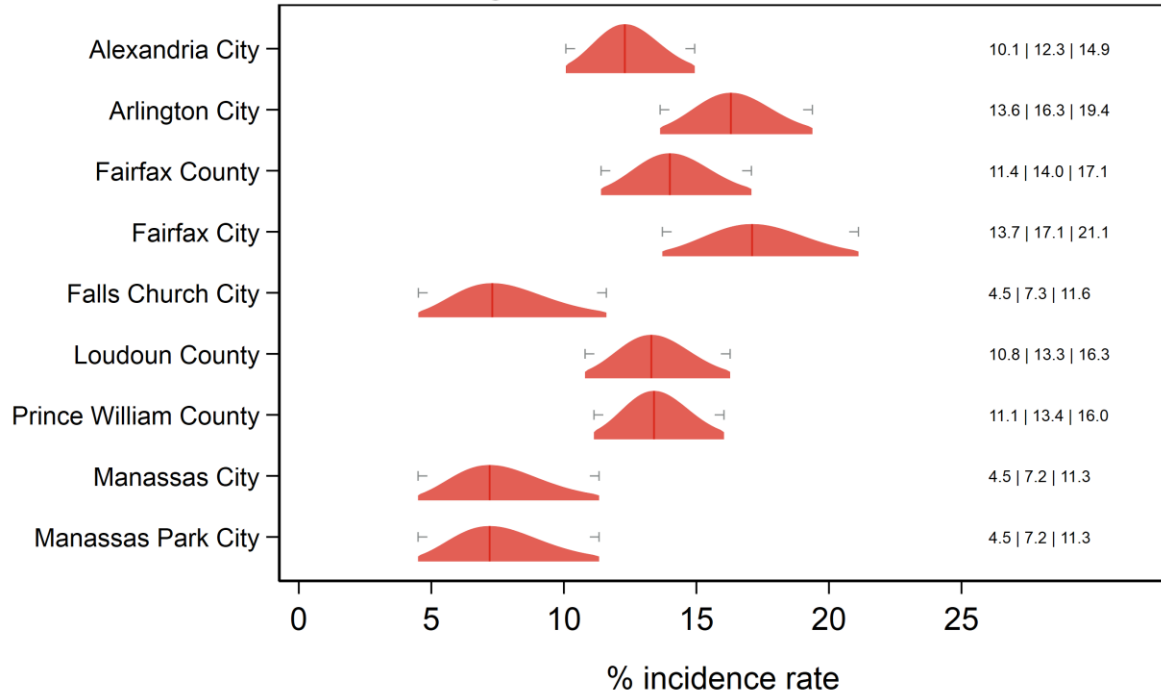| County | | 2-sided 95% LCB \| Point Estimate \| 2-sided 95% UCB |
|---|---|---|
| Caroline County | | 5.1 \| 8.0 \| 12.4 |
| King George County | | 5.1 \| 8.0 \| 12.4 |
| Spotsylvania County | | 13.1 \| 15.8 \| 18.9 |
| Stafford County | | 13.9 \| 16.4 \| 19.2 |
| Fredericksburg City | | 15.5 \| 18.9 \| 22.9 |
| Culpeper County | | 14.5 \| 18.3 \| 22.9 |
| Fauquier County | | 15.1 \| 19.4 \| 24.6 |
| Madison County | | 12.4 \| 15.3 \| 18.7 |
| Orange County | | 15.1 \| 19.5 \| 24.7 |
| Rappahannock County | | 5.0 \| 8.0 \| 12.6 |

% incidence rate

Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
Gray markers: 95% confidence interval

## Current E-Cigarette Use
## Thomas Jefferson and Piedmont HDs

| County | 2-sided 95% LCB \| Point Estimate \| 2-sided 95% UCB |
|---|---|
| Albemarle County | 7.3 \| 10.2 \| 14.1 |
| Fluvanna County | 13.4 \| 16.9 \| 21.1 |
| Greene County | 5.6 \| 8.7 \| 13.2 |
| Louisa County | 9.2 \| 12.0 \| 15.5 |
| Nelson County | 15.5 \| 20.7 \| 27.1 |
| Charlottesville City | 18.3 \| 24.8 \| 32.7 |
| Amelia County | 4.6 \| 7.4 \| 11.6 |
| Buckingham County | 4.6 \| 7.4 \| 11.6 |
| Charlotte County | 12.2 \| 15.0 \| 18.4 |
| Cumberland County | 4.6 \| 7.4 \| 11.6 |
| Lunenburg County | 4.6 \| 7.4 \| 11.6 |
| Nottoway County | 4.6 \| 7.4 \| 11.6 |
| Prince Edward County | 4.6 \| 7.4 \| 11.6 |

% incidence rate

Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
Gray markers: 95% confidence interval

# Current E-Cigarette Use
## Alexandria, Fairfax, Arlington, Loudon, Prince William HDs



| | |
|---|---|
| Alexandria City | 10.1 \| 12.3 \| 14.9 |
| Arlington City | 13.6 \| 16.3 \| 19.4 |
| Fairfax County | 11.4 \| 14.0 \| 17.1 |
| Fairfax City | 13.7 \| 17.1 \| 21.1 |
| Falls Church City | 4.5 \| 7.3 \| 11.6 |
| Loudoun County | 10.8 \| 13.3 \| 16.3 |
| Prince William County | 11.1 \| 13.4 \| 16.0 |
| Manassas City | 4.5 \| 7.2 \| 11.3 |
| Manassas Park City | 4.5 \| 7.2 \| 11.3 |

% incidence rate

Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
Gray markers: 95% confidence interval

## Additional diagnostics

Direct estimate is inside the 95% SAE Wilson CI: 15 areas.

Direct estimate is outside the 95% SAE Wilson CI: 118 areas.

SAE estimate is inside the 95% direct Wilson CI: 127 areas.

SAE estimate is outside the 95% direct Wilson CI: 6 areas.

SAE Wilson 95% CI is fully inside the 95% direct Wilson CI: 112 areas.

SAE Wilson 95% CI partially overlaps with the 95% direct Wilson CI: 21 areas.

SAE Wilson 95% CI and the 95% direct Wilson CI do not overlap: 0 areas.

SAE standard error is less that the direct standard error: 85 areas.

SAE standard error is greater that the (nonzero) direct standard error: 0 areas.

Direct standard error is zero: 48 areas.

Proportion of SAE variance due to ACS sampling error: min = 0.46%; med = 2.10%; max = 7.97%.

Proportion of SAE variance due to sampling error in regression coefficient estimates: min = 92.03%; med = 97.90%; max = 99.54%.

Proportion of SAE variance due to model selection: min = 0.00%; med = 0.00%; max = 0.00%.

Proportion of SAE variance due to area random effects: <identically zero>