

Indicator 20: Current E-Cigarette Use

Internal variable name: outc20_ecig

Definition: Do you now use e-cigarettes or other electronic vaping products?

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 Black vs. NH White	-0.3330 (0.2671)	-0.4532* (0.2260)	-0.3990 (0.2806)
NH Asian vs. NH White	-0.4595 (0.3220)	-0.4841 (0.3873)	-0.4740 (0.3080)
NH Other vs. NH White	-0.0578 (0.3042)	-0.0460 (0.3513)	-0.0569 (0.3035)
Hispanic vs. NH White	-1.5710*** (0.3992)	-1.6126*** (0.3821)	-1.5870*** (0.3966)
Female	-0.3614* (0.1504)	-0.3553* (0.1542)	-0.3626* (0.1506)
Age 18-34 vs. 65+	2.3981*** (0.2199)	2.3434*** (0.2661)	2.3702*** (0.2202)
Age 35-44 vs. 65+	1.8478*** (0.2918)	1.8036*** (0.2939)	1.8297*** (0.2917)
Age 45-54 vs. 65+	1.1617*** (0.3144)	1.1467*** (0.2919)	1.1622*** (0.3149)
Age 55-64 vs. 65+	0.9666** (0.2914)	0.9631** (0.3057)	0.9634** (0.2917)
City on 4-cat urban/rural scale		0.4252 (0.2227)	0.3456 (0.2354)
VA BRFSS 2014 SAE outc37_psa_test		-0.6569 (3.9853)	-0.8874 (3.9571)
VA BRFSS 2014 SAE outc6_doctor_person		-1.4007 (2.2620)	-1.8283 (2.2843)
o.VA BRFSS 2014 SAE outc37_psa_test		0.0000 (.)	
VA BRFSS 2014 SAE outc9_stroke		-9.2238 (70.2355)	-5.3853 (65.8542)
c.VA14SAE_outc37_psa_test#c.VA14SAE_outc9_stroke		32.1750 (116.6081)	21.4476 (111.5094)
Intercept	-4.3238*** (0.2648)	-3.1323 (3.1809)	-2.6298 (3.0735)
Area effect variance	0.2630		0.1862

(0.1493)

(0.2244)

Number of alternative models used to estimate model error = 15.

Results

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Augusta County	51015	12.5%	(5.5%, 26.1%)	7.1%	(4.2%, 11.7%)
Bath County	51017	9.9%	(2.0%, 49.9%)	2.8%	(0.9%, 8.2%)
Caroline County	51033	13.1%	(1.9%, 53.4%)	4.5%	(2.9%, 6.8%)
Clarke County	51043	0.0%	(0.0%, 28.2%)	2.3%	(1.3%, 4.1%)
Culpeper County	51047	1.2%	(0.9%, 12.2%)	2.3%	(1.4%, 3.7%)
Fauquier County	51061	6.2%	(2.0%, 17.7%)	3.4%	(2.4%, 4.8%)
Frederick County	51069	6.2%	(1.8%, 19.5%)	3.6%	(2.5%, 5.1%)
Highland County	51091	0.0%	(0.0%, 53.2%)	2.0%	(0.1%, 23.1%)
King George County	51099	0.0%	(0.0%, 36.2%)	2.7%	(1.8%, 4.1%)
Madison County	51113	0.0%	(0.0%, 22.9%)	2.5%	(1.4%, 4.5%)
Orange County	51137	2.3%	(0.9%, 17.3%)	2.6%	(1.7%, 3.8%)
Page County	51139	9.9%	(2.8%, 29.8%)	4.6%	(3.0%, 7.0%)
Rappahannock County	51157	0.0%	(0.0%, 29.2%)	2.4%	(0.7%, 7.8%)
Rockbridge County	51163	3.8%	(0.6%, 19.6%)	3.1%	(1.9%, 5.0%)
Rockingham County	51165	0.2%	(0.2%, 6.0%)	2.3%	(1.1%, 4.7%)
Shenandoah County	51171	5.2%	(1.4%, 17.8%)	3.5%	(2.3%, 5.3%)
Spotsylvania County	51177	7.7%	(2.8%, 19.5%)	4.6%	(3.4%, 6.0%)
Stafford County	51179	3.4%	(1.3%, 8.8%)	3.0%	(2.1%, 4.3%)
Warren County	51187	9.1%	(2.3%, 29.5%)	4.0%	(2.9%, 5.6%)
Buena Vista City	51530	0.0%	(0.0%, 45.0%)	2.7%	(0.4%, 16.3%)
Fredericksburg City	51630	0.0%	(0.0%, 20.9%)	2.9%	(1.5%, 5.6%)
Harrisonburg City	51660	27.9%	(3.7%, 79.7%)	9.4%	(6.0%, 14.4%)
Lexington City	51678	0.0%	(0.0%, 96.3%)	2.8%	(1.7%, 4.6%)
Staunton City	51790	0.0%	(0.0%, 43.5%)	4.3%	(1.8%, 10.0%)
Waynesboro City	51820	0.0%	(0.0%, 42.1%)	4.2%	(2.1%, 8.1%)
Winchester City	51840	25.8%	(4.0%, 74.5%)	6.8%	(3.2%, 13.8%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Albemarle County	51003	3.6%	(1.1%, 11.6%)	3.0%	(2.1%, 4.3%)
Alleghany County	51005	29.5%	(6.8%, 70.8%)	7.6%	(5.6%, 10.1%)
Amherst County	51009	0.9%	(0.6%, 19.6%)	2.7%	(1.4%, 5.1%)
Appomattox County	51011	0.0%	(0.0%, 18.6%)	2.5%	(1.5%, 4.1%)
Arlington City	51013	7.3%	(2.9%, 17.4%)	5.2%	(3.5%, 7.8%)
Bedford County	51019	1.7%	(1.0%, 7.2%)	2.1%	(1.3%, 3.4%)
Botetourt County	51023	5.7%	(0.9%, 28.1%)	3.1%	(1.6%, 5.8%)
Campbell County	51031	9.6%	(3.8%, 22.4%)	6.0%	(4.1%, 8.6%)
Craig County	51045	16.8%	(1.9%, 67.9%)	2.7%	(1.3%, 5.7%)
Fairfax County	51059	4.5%	(3.1%, 6.5%)	3.0%	(2.3%, 3.9%)
Fluvanna County	51065	16.5%	(4.4%, 45.9%)	5.8%	(3.8%, 8.6%)
Greene County	51079	0.0%	(0.0%, 36.1%)	3.4%	(2.3%, 5.0%)
Loudoun County	51107	2.1%	(0.8%, 5.4%)	2.0%	(1.2%, 3.3%)
Louisa County	51109	11.3%	(2.6%, 37.9%)	4.4%	(3.2%, 6.0%)
Nelson County	51125	0.0%	(0.0%, 29.5%)	2.1%	(1.1%, 3.8%)
Prince William County	51153	1.7%	(0.7%, 3.9%)	1.6%	(1.1%, 2.5%)
Roanoke County	51161	11.7%	(4.8%, 25.9%)	6.5%	(4.5%, 9.4%)
Alexandria City	51510	4.1%	(1.2%, 12.8%)	3.9%	(2.5%, 6.0%)
Charlottesville City	51540	7.9%	(2.4%, 22.7%)	6.0%	(3.5%, 10.0%)
Covington City	51580	0.0%	(0.0%, 87.4%)	2.6%	(0.7%, 9.3%)
Fairfax City	51600	2.7%	(0.7%, 9.4%)	3.1%	(1.6%, 5.8%)
Falls Church City	51610	0.0%	(0.0%, 25.6%)	2.0%	(0.9%, 4.4%)
Lynchburg City	51680	7.8%	(2.6%, 21.0%)	6.1%	(3.3%, 11.0%)
Manassas City	51683	0.0%	(0.0%, 33.1%)	2.7%	(1.5%, 4.7%)
Manassas Park City	51685	0.0%	(0.0%, 76.5%)	2.6%	(1.6%, 4.2%)
Salem City	51775	0.0%	(0.0%, 42.2%)	3.3%	(2.1%, 5.3%)

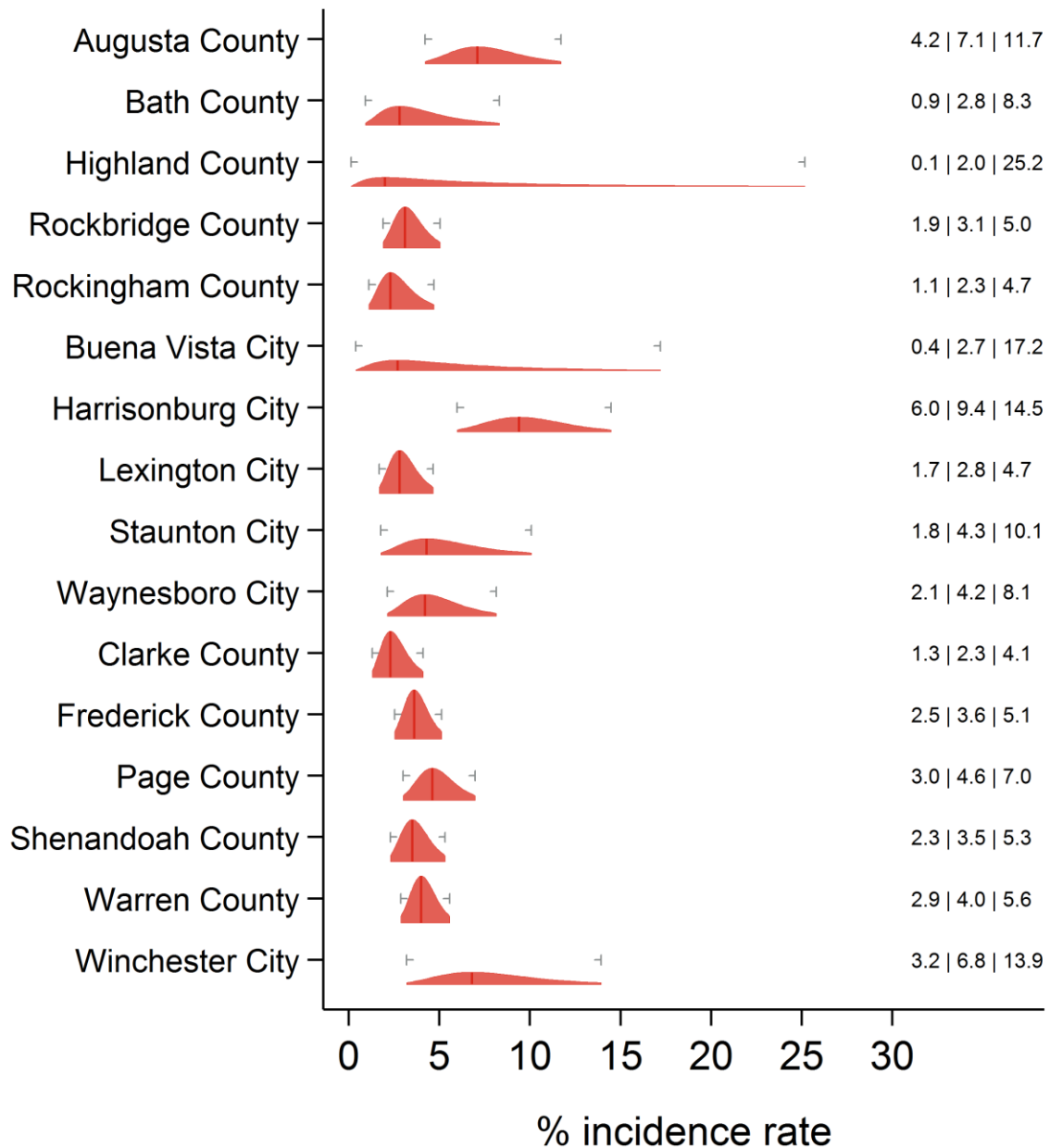
County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Bland County	51021	0.0%	(-0.0%, 27.9%)	2.7%	(1.5%, 4.8%)
Buchanan County	51027	0.0%	(0.0%, 18.3%)	2.8%	(1.6%, 5.0%)
Carroll County	51035	0.0%	(0.0%, 15.4%)	2.5%	(1.1%, 5.5%)
Dickenson County	51051	8.9%	(1.7%, 35.3%)	3.9%	(2.5%, 6.1%)
Floyd County	51063	23.8%	(7.1%, 56.1%)	9.9%	(6.8%, 14.2%)
Franklin County	51067	0.0%	(0.0%, 14.6%)	2.3%	(1.4%, 3.7%)
Giles County	51071	6.4%	(1.0%, 30.8%)	5.1%	(3.5%, 7.5%)
Grayson County	51077	2.1%	(1.1%, 24.1%)	2.7%	(1.6%, 4.3%)
Henry County	51089	4.5%	(2.1%, 15.7%)	3.2%	(1.7%, 5.8%)
Lee County	51105	6.7%	(1.0%, 32.9%)	4.2%	(2.7%, 6.4%)
Montgomery County	51121	9.1%	(2.9%, 25.3%)	6.8%	(4.5%, 9.9%)
Patrick County	51141	6.9%	(1.1%, 33.8%)	3.0%	(1.9%, 4.8%)
Pittsylvania County	51143	6.2%	(2.3%, 15.7%)	3.7%	(2.8%, 5.0%)
Pulaski County	51155	13.1%	(2.8%, 44.4%)	9.0%	(4.7%, 16.7%)
Russell County	51167	9.5%	(2.4%, 31.6%)	5.1%	(3.2%, 7.9%)
Scott County	51169	19.7%	(4.8%, 54.3%)	6.3%	(3.8%, 10.1%)
Smyth County	51173	0.0%	(0.0%, 26.5%)	2.9%	(1.7%, 5.1%)
Tazewell County	51185	7.6%	(2.2%, 23.1%)	4.5%	(2.9%, 6.9%)
Washington County	51191	1.2%	(0.8%, 9.0%)	2.3%	(1.4%, 3.7%)
Wise County	51195	4.5%	(1.2%, 15.8%)	3.3%	(1.6%, 6.8%)
Wythe County	51197	8.5%	(2.4%, 25.6%)	4.3%	(2.6%, 7.0%)
Bristol City	51520	0.0%	(0.0%, 78.6%)	3.8%	(1.6%, 8.9%)
Danville City	51590	5.7%	(0.9%, 28.5%)	4.0%	(0.9%, 15.6%)
Galax City	51640	0.0%	(0.0%, 76.1%)	3.1%	(1.6%, 5.8%)
Martinsville City	51690	28.8%	(3.6%, 81.3%)	5.6%	(1.3%, 21.5%)
Norton City	51720	50.9%	(11.5%, 89.2%)	6.9%	(2.4%, 18.1%)
Radford City	51750	9.0%	(1.3%, 42.4%)	8.8%	(2.8%, 24.4%)
Roanoke City	51770	3.3%	(1.7%, 10.7%)	3.8%	(2.0%, 6.9%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Amelia County	51007	11.8%	(3.1%, 36.1%)	3.6%	(2.5%, 5.2%)
Brunswick County	51025	0.0%	(0.0%, 21.3%)	3.4%	(0.8%, 13.6%)
Buckingham County	51029	0.0%	(0.0%, 18.5%)	2.3%	(1.3%, 4.3%)
Charles City County	51036	0.0%	(0.0%, 58.8%)	2.4%	(1.4%, 4.3%)
Charlotte County	51037	0.0%	(0.0%, 15.4%)	2.5%	(1.5%, 4.0%)
Chesterfield County	51041	3.8%	(1.6%, 9.1%)	2.8%	(2.0%, 3.8%)
Cumberland County	51049	0.0%	(0.0%, 21.7%)	2.7%	(1.4%, 5.4%)
Dinwiddie County	51053	0.4%	(0.3%, 22.1%)	2.5%	(1.6%, 3.8%)
Goochland County	51075	8.3%	(1.8%, 31.6%)	3.3%	(2.0%, 5.2%)
Greensville County	51081	0.0%	(0.0%, 39.7%)	3.4%	(1.8%, 6.4%)
Halifax County	51083	4.7%	(1.5%, 14.3%)	3.5%	(2.3%, 5.2%)
Hanover County	51085	2.8%	(0.5%, 13.3%)	2.6%	(1.6%, 4.2%)
Henrico County	51087	5.5%	(2.6%, 11.0%)	3.6%	(2.7%, 4.8%)
Lunenburg County	51111	0.0%	(0.0%, 29.7%)	2.7%	(1.6%, 4.4%)
Mecklenburg County	51117	1.2%	(0.5%, 9.5%)	2.4%	(1.5%, 3.7%)
New Kent County	51127	14.3%	(3.4%, 43.8%)	4.3%	(2.3%, 7.7%)
Nottoway County	51135	0.0%	(0.0%, 34.9%)	3.2%	(2.0%, 5.0%)
Powhatan County	51145	1.7%	(1.0%, 23.0%)	2.6%	(1.3%, 5.3%)
Prince Edward County	51147	5.3%	(1.1%, 22.2%)	3.0%	(1.8%, 4.8%)
Prince George County	51149	7.3%	(2.1%, 23.0%)	3.5%	(2.5%, 4.8%)
Surry County	51181	0.0%	(-0.0%, 33.3%)	2.3%	(1.3%, 3.9%)
Sussex County	51183	0.0%	(-0.0%, 15.6%)	2.7%	(1.3%, 5.6%)
Colonial Heights City	51570	15.7%	(4.7%, 41.3%)	6.2%	(2.5%, 14.9%)
Emporia City	51595	0.0%	(0.0%, 91.8%)	4.0%	(1.0%, 14.1%)
Hopewell City	51670	2.2%	(1.1%, 23.5%)	3.6%	(1.6%, 7.7%)
Petersburg City	51730	4.0%	(2.4%, 17.3%)	3.4%	(1.8%, 6.2%)
Richmond City	51760	4.7%	(1.6%, 13.6%)	4.1%	(2.6%, 6.5%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Accomack County	51001	0.0%	(0.0%, 9.4%)	1.7%	(1.0%, 2.9%)
Essex County	51057	0.5%	(0.3%, 27.8%)	2.0%	(1.0%, 4.2%)
Gloucester County	51073	4.3%	(1.0%, 17.3%)	2.6%	(1.5%, 4.5%)
Isle of Wight County	51093	0.0%	(0.0%, 16.5%)	2.4%	(1.5%, 3.7%)
James City County	51095	0.0%	(0.0%, 6.6%)	2.0%	(1.3%, 3.1%)
King and Queen County	51097	11.7%	(1.7%, 50.6%)	3.2%	(2.0%, 5.1%)
King William County	51101	0.0%	(0.0%, 29.7%)	2.5%	(1.5%, 4.1%)
Lancaster County	51103	0.0%	(0.0%, 40.1%)	4.9%	(0.7%, 26.5%)
Mathews County	51115	0.0%	(-0.0%, 23.6%)	2.1%	(1.1%, 4.0%)
Middlesex County	51119	0.0%	(0.0%, 20.1%)	2.0%	(1.2%, 3.2%)
Northampton County	51131	7.7%	(1.6%, 30.2%)	3.8%	(2.8%, 5.2%)
Northumberland County	51133	1.4%	(0.8%, 21.1%)	2.8%	(1.3%, 5.6%)
Richmond County	51159	2.9%	(0.5%, 14.3%)	2.3%	(1.4%, 3.8%)
Southampton County	51175	11.7%	(1.7%, 50.0%)	4.3%	(2.8%, 6.6%)
Westmoreland County	51193	32.1%	(7.2%, 74.3%)	6.4%	(3.5%, 11.5%)
York County	51199	4.4%	(1.0%, 17.7%)	3.1%	(1.9%, 4.9%)
Chesapeake City	51550	1.2%	(0.4%, 3.7%)	1.8%	(1.3%, 2.7%)
Franklin City	51620	0.0%	(0.0%, 23.8%)	3.3%	(1.4%, 7.9%)
Hampton City	51650	6.2%	(2.9%, 12.8%)	4.4%	(3.0%, 6.5%)
Newport News City	51700	3.1%	(1.2%, 8.0%)	3.3%	(2.3%, 4.7%)
Norfolk City	51710	8.2%	(3.5%, 18.1%)	6.2%	(4.3%, 8.9%)
Poquoson City	51735	17.0%	(2.0%, 67.3%)	3.3%	(1.9%, 5.9%)
Portsmouth City	51740	6.6%	(2.8%, 14.8%)	5.2%	(3.2%, 8.4%)
Suffolk City	51800	0.0%	(0.0%, 7.3%)	1.8%	(1.1%, 3.0%)
Virginia Beach City	51810	8.5%	(4.7%, 14.7%)	6.3%	(4.4%, 8.8%)
Williamsburg City	51830	0.0%	(0.0%, 64.5%)	2.4%	(0.7%, 8.1%)

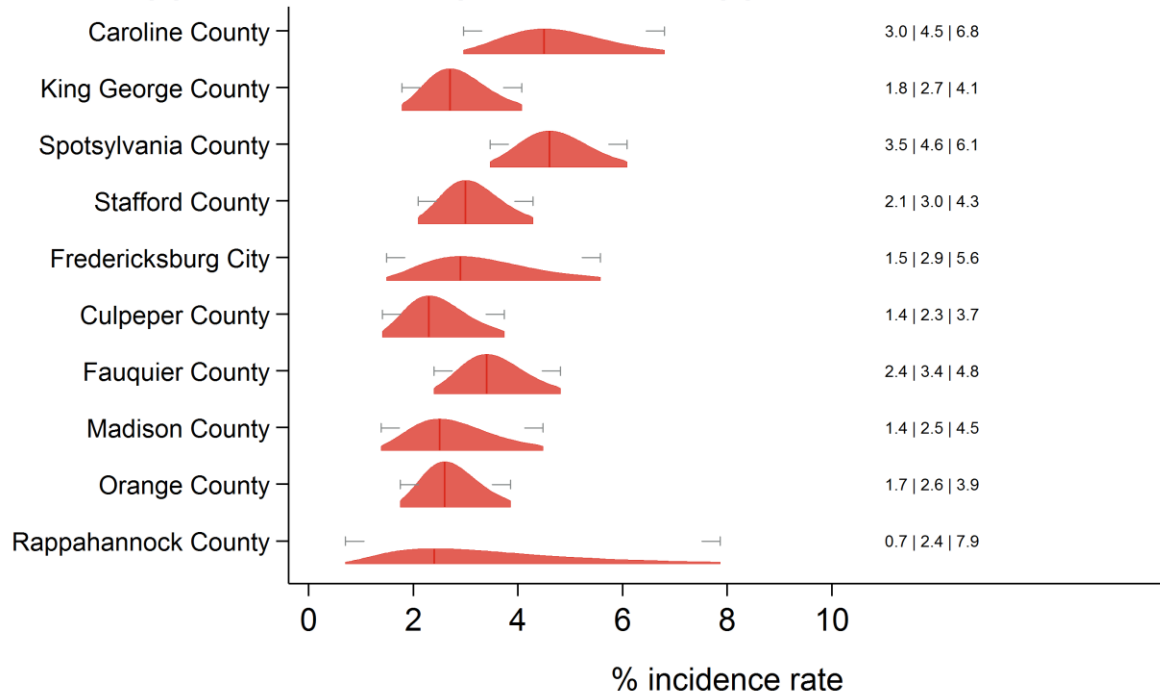
Graphical representation

Current E-Cigarette Use Central Shenandoah and Lord Fairfax HDs



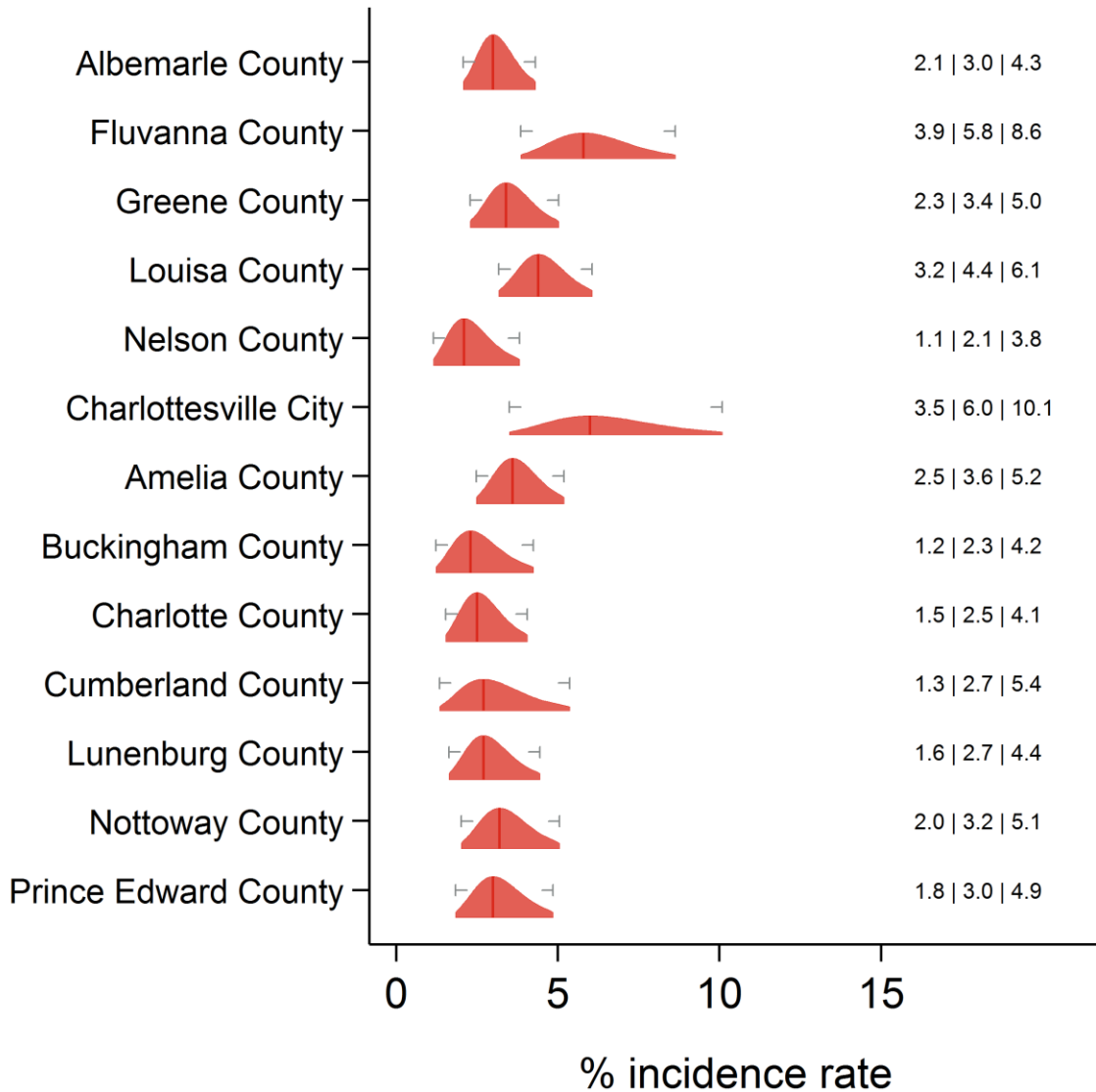
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Current E-Cigarette Use Rappahannock/Rapidan and Rappahannock HDs



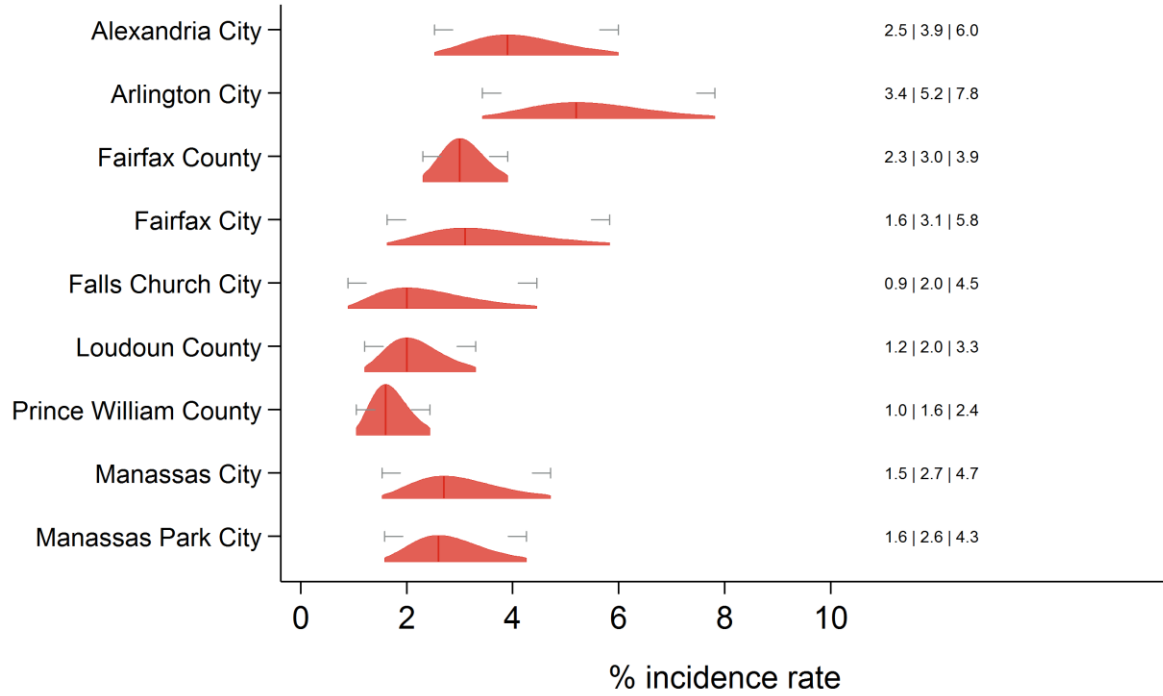
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Current E-Cigarette Use Thomas Jefferson and Piedmont HDs



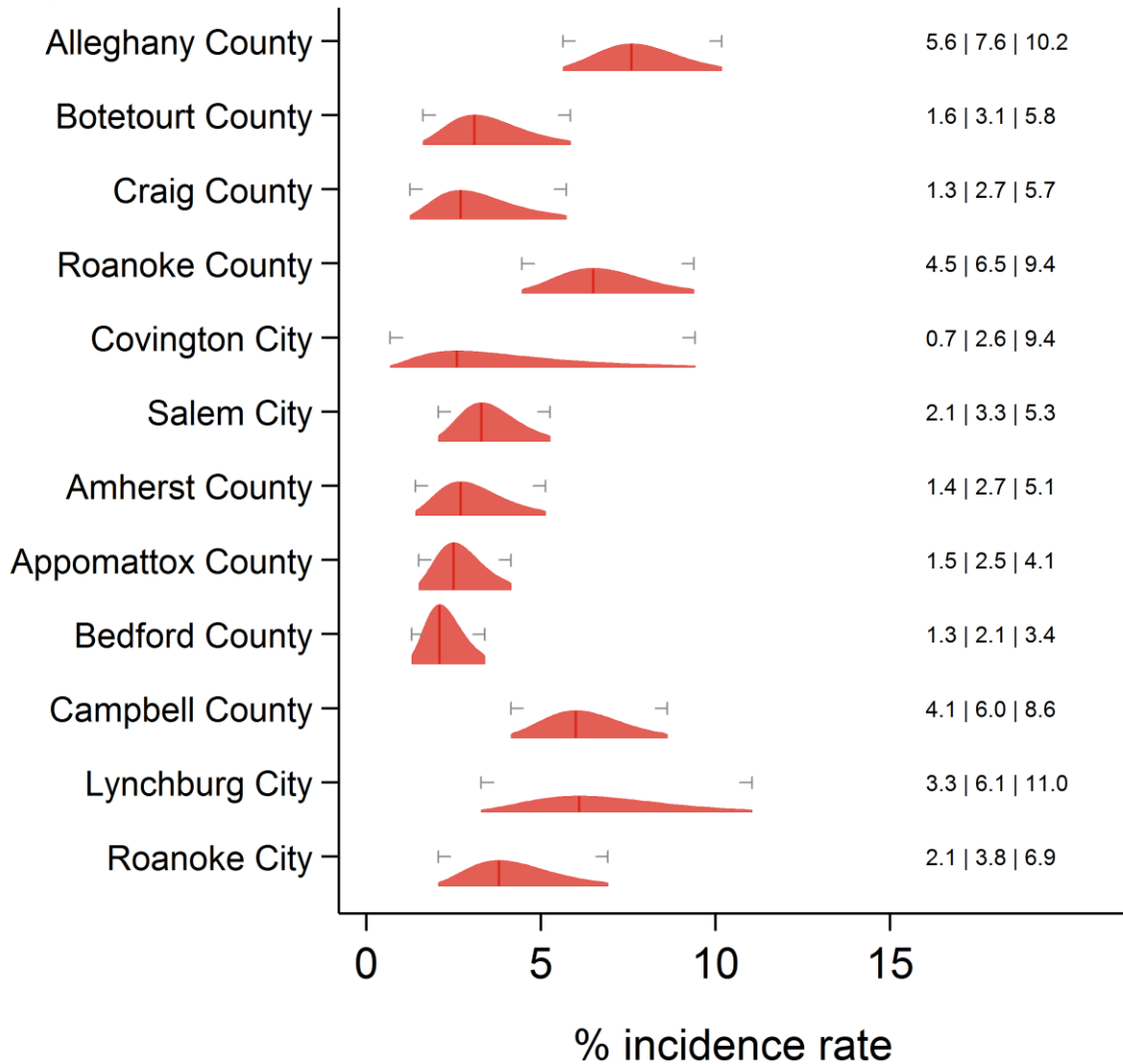
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

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



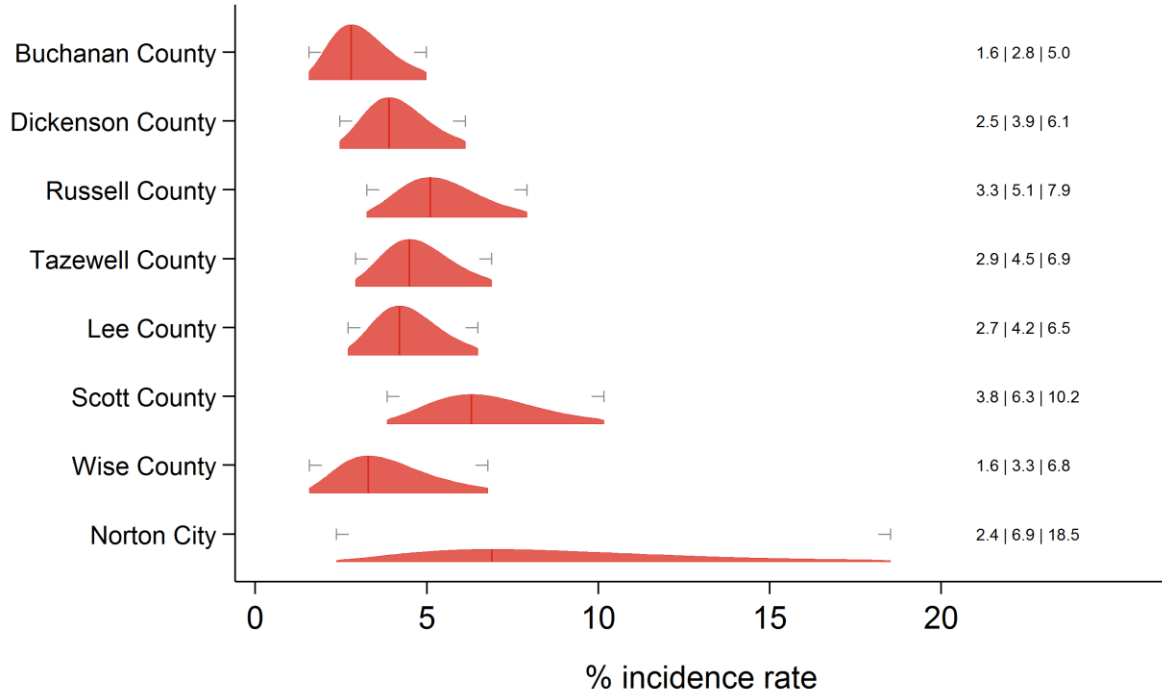
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Current E-Cigarette Use Alleghany, Roanoke and Central Virginia HDs



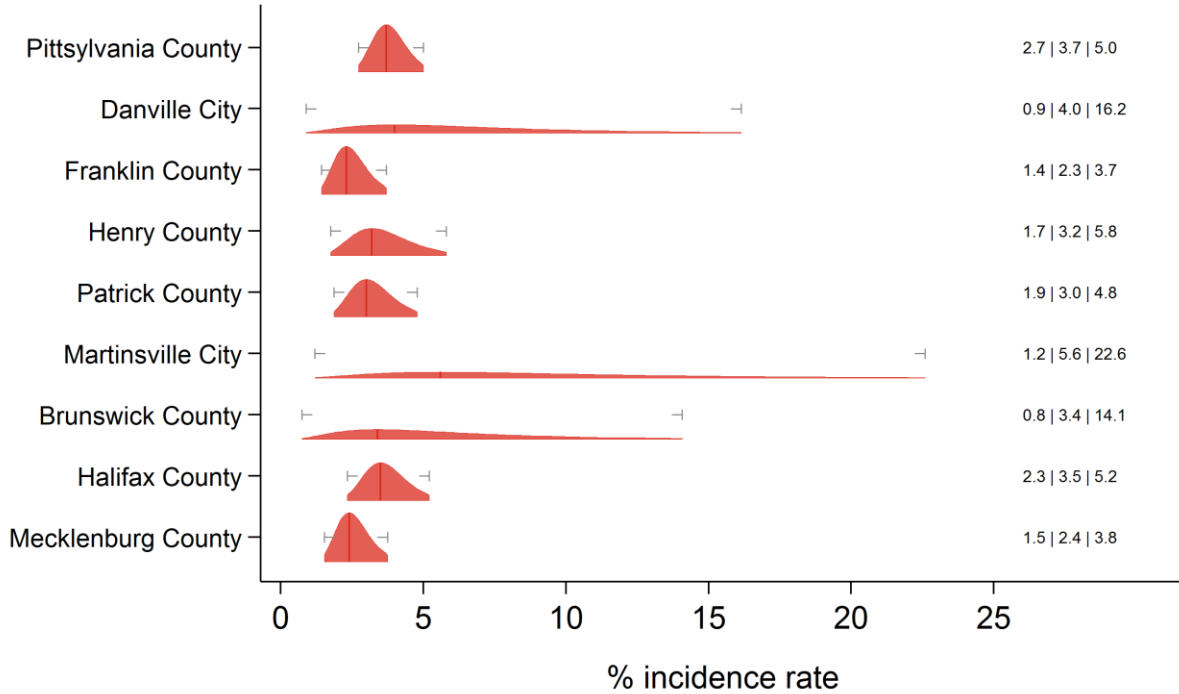
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Current E-Cigarette Use Cumberland Plateau and Lenowisco HDs



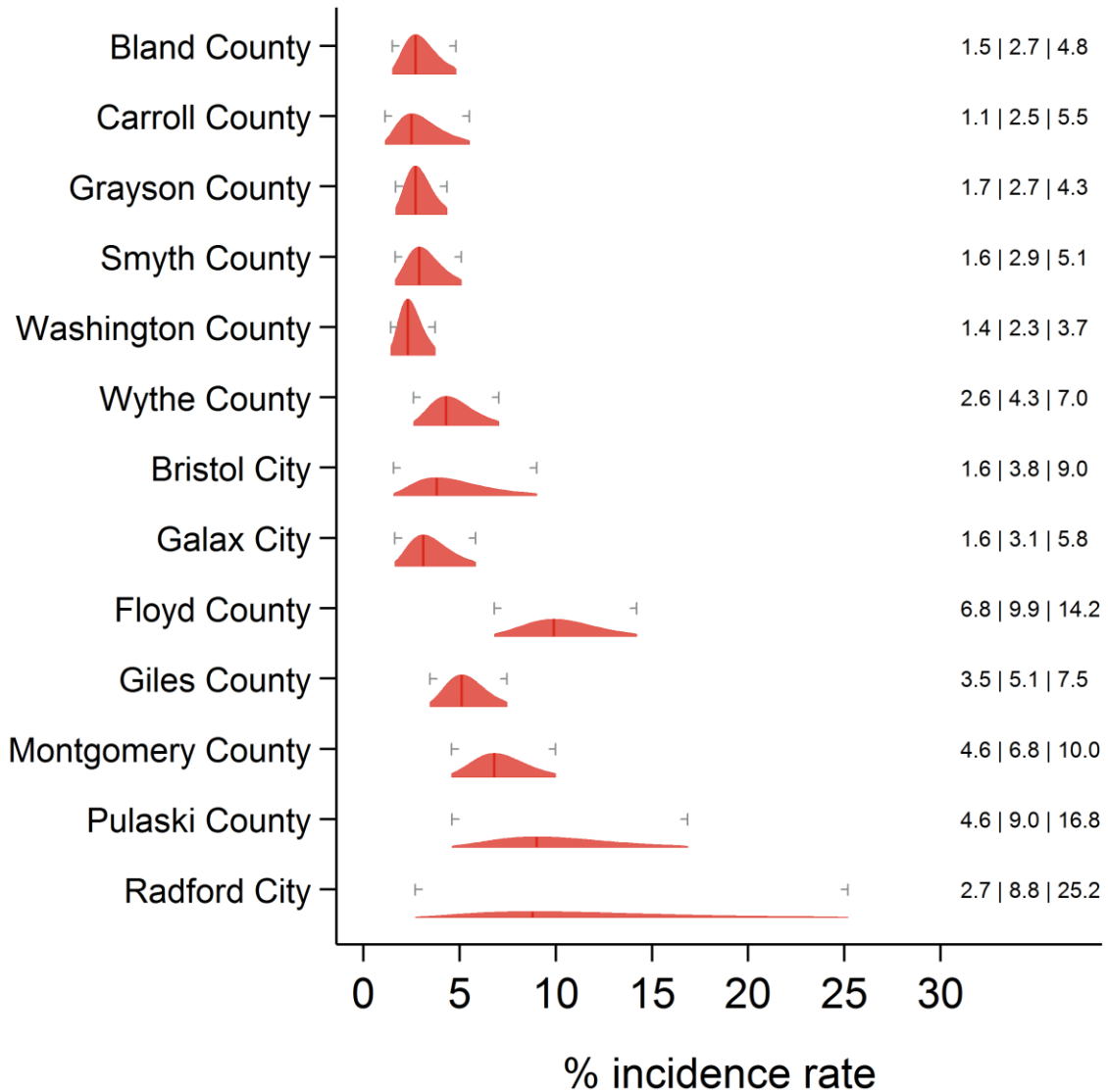
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

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



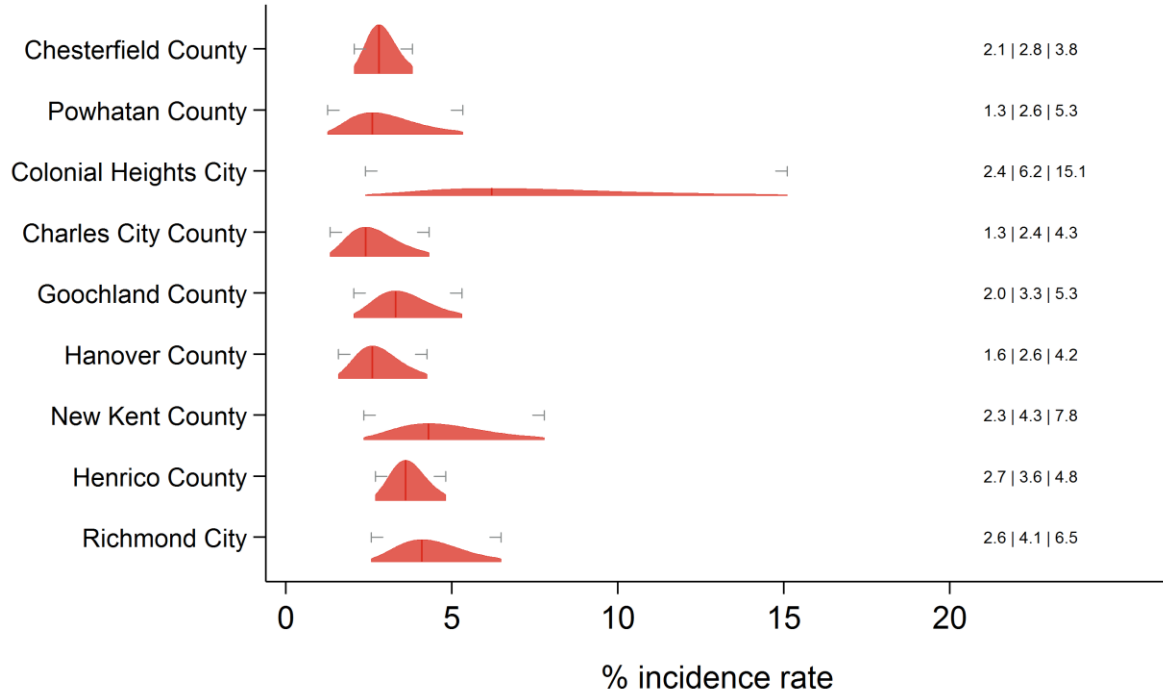
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Current E-Cigarette Use New River and Mount Rogers HDs



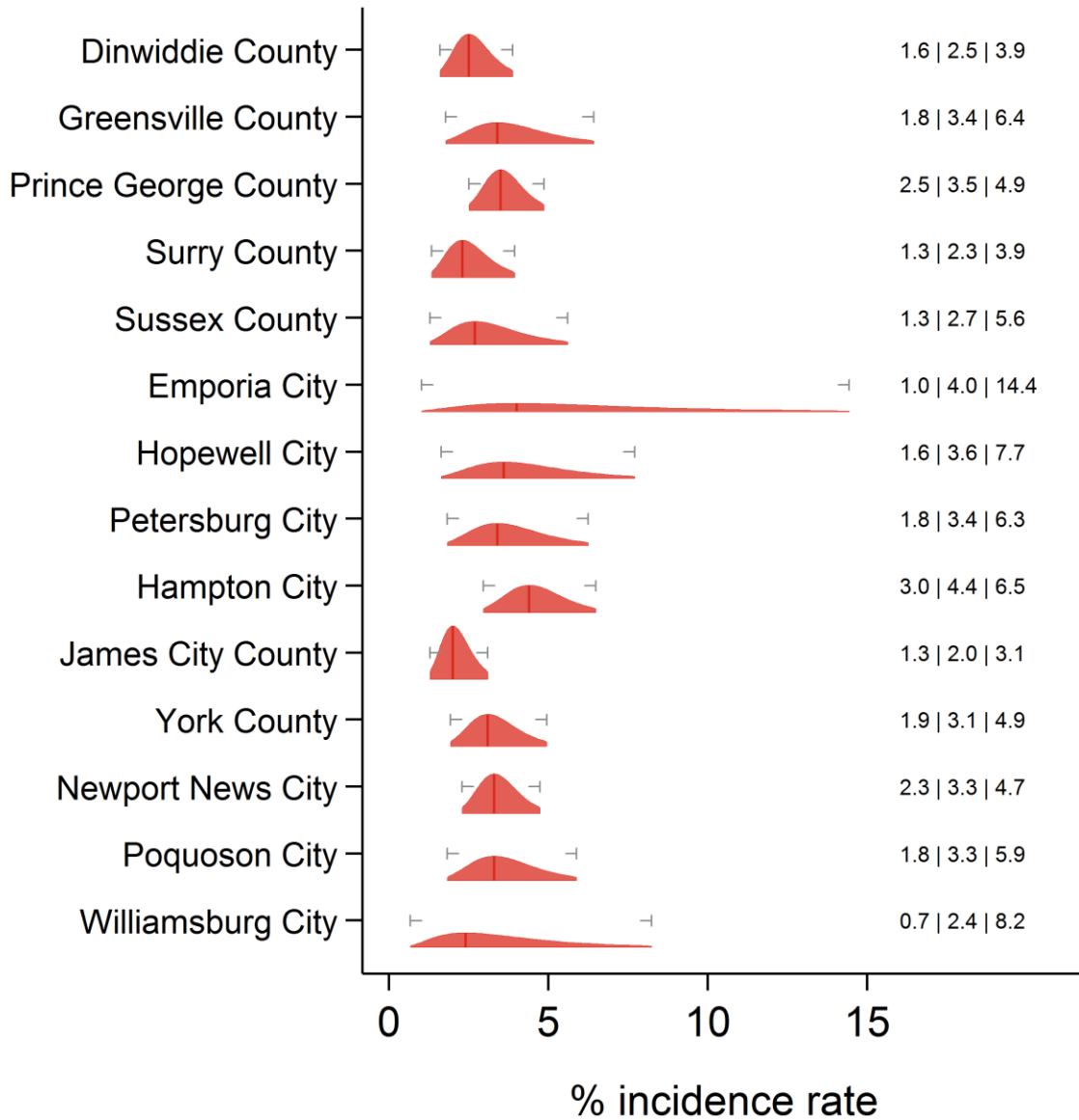
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

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



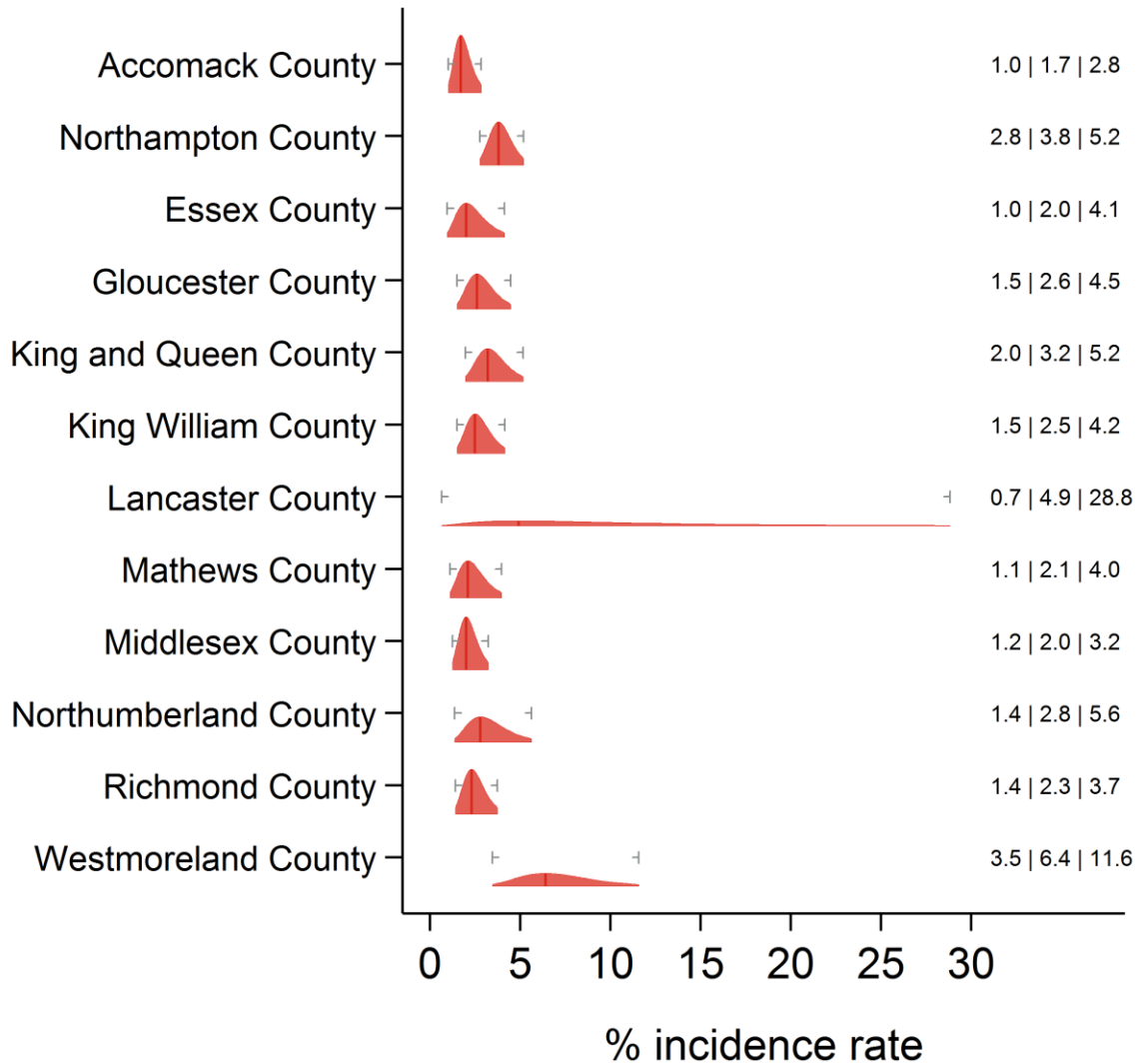
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Current E-Cigarette Use Crater, Peninsula and Hampton HDs



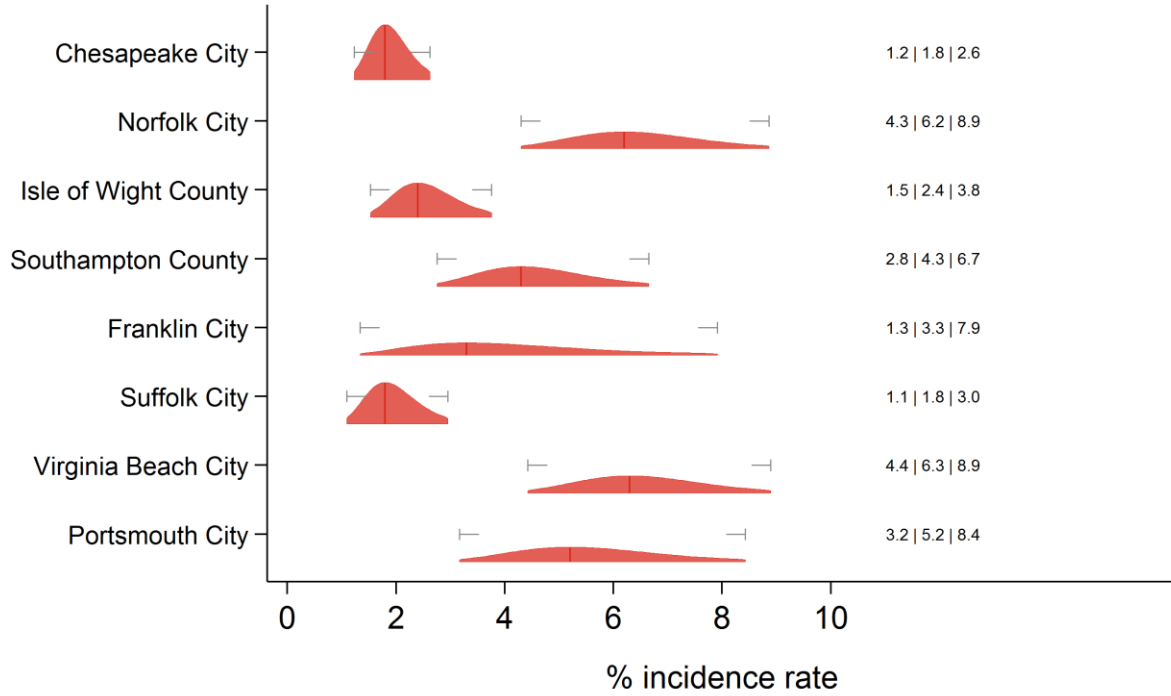
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Current E-Cigarette Use Eastern Shore and Three Rivers HDs



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



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: 38 areas.

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

SAE estimate is inside the 95% direct Wilson CI: 130 areas.

SAE estimate is outside the 95% direct Wilson CI: 3 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 than the direct standard error: 84 areas.

SAE standard error is greater than the (nonzero) direct standard error: 3 areas.

Direct standard error is zero: 46 areas.

Proportion of SAE variance due to ACS sampling error: min = 0.02%; med = 0.84%; max = 2.59%.

Proportion of SAE variance due to sampling error in regression coefficient estimates: min = 10.16%; med = 71.55%; max = 97.49%.

Proportion of SAE variance due to model selection: min = 0.29%; med = 8.29%; max = 89.14%.

Proportion of SAE variance due to area random effects: min = 0.68%; med = 15.93%; max = 52.04%.