



Indicator 18: Current Tobacco Users (includes smoking and other forms of tobacco use)

Internal variable name: outc18_tobacco_user

Section 1: Definition

Definition: Do you now smoke cigarettes every day, some days, or not at all? + Do you currently use chewing tobacco, snuff, or snus every day, some days, or not at all?

Section 2: Predictive models

	Mixed, demos only	Logit, no area effects	Mixed with area covariates
	b/se	b/se	b/se
Outcome 18: Current Tobacco Users (includes smoking and other forms of tobacco use)			
Non-Hispanic Black vs. Non-Hispanic White	-0.1949 (0.1167)	-0.1956 (0.1079)	-0.1956 (0.1118)
Non-Hispanic Asian vs. Non-Hispanic White	-0.6550** (0.2175)	-0.5754* (0.2524)	-0.5754** (0.2188)
Non-Hispanic Other vs. Non-Hispanic White	0.0695 (0.1548)	0.0913 (0.1808)	0.0913 (0.1571)
Hispanic vs. Non-Hispanic White	-0.5930** (0.1916)	-0.4830* (0.1922)	-0.4830* (0.1903)
Female	-0.5978*** (0.0964)	-0.5988*** (0.0736)	-0.5988*** (0.0953)
Age 18-24 vs. 65+	1.0942*** (0.1348)	1.0898*** (0.1491)	1.0898*** (0.1331)
Age 25-34 vs. 65+	1.1811*** (0.1316)	1.1852*** (0.1227)	1.1852*** (0.1309)
Age 35-44 vs. 65+	1.0979*** (0.1085)	1.1116*** (0.1158)	1.1116*** (0.1049)
Age 45-54 vs. 65+	0.9769*** (0.0979)	1.0105*** (0.1083)	1.0105*** (0.0963)
Age 55-64 vs. 65+	0.5650*** (0.1139)	0.5724*** (0.1080)	0.5724*** (0.1136)
% education below High School, population 25+ years old		-0.0329* (0.0131)	-0.0329** (0.0110)
Average aggregate household income per occupied housing unit in the ACS		-0.0153***	-0.0153***

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		(0.0028)	(0.0021)
% families with own children		0.0149	0.0149
		(0.0090)	(0.0076)
% with disability		0.0588**	0.0588**
		(0.0180)	(0.0184)
Crude mortality rate of Alzheimer's disease per 10,000		-0.0888	-0.0888*
		(0.0456)	(0.0408)
Ovary Cancer Female Rate		0.0121	0.0121*
		(0.0068)	(0.0057)
% living in non-institutionalized group quarters, total population		-0.0416*	-0.0416*
		(0.0204)	(0.0166)
{Ovary Cancer Female Rate}		0.0013	0.0013
Interacted with {% living in non-institutionalized group quarters, total population}		(0.0013)	(0.0013)
Kidney Cancer Female Rate		-0.0136	-0.0136
		(0.0112)	(0.0103)
{Kidney Cancer Female Rate}		0.0007	0.0007
Interacted with {Crude mortality rate of Alzheimer's disease per 10,000}		(0.0036)	(0.0033)
Intercept	-1.6061***	-1.1547*	-1.1547*
	(0.0984)	(0.5612)	(0.4945)
Area effect variance	0.1917***		0.0000
	(0.0543)		(0.0000)

Number of alternative models used to estimate model error = 9.

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Section 3: Results

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE 95% CI
Augusta County	51015	28.3%	(20.6%, 37.6%)	26.6%	(24.2%, 29.3%)
Bath County	51017	34.2%	(11.4%, 67.8%)	34.6%	(29.0%, 40.6%)
Caroline County	51033	22.7%	(8.3%, 48.7%)	23.4%	(19.1%, 28.3%)
Clarke County	51043	17.6%	(5.1%, 46.2%)	18.3%	(15.9%, 20.9%)
Culpeper County	51047	26.8%	(15.0%, 43.2%)	18.8%	(13.8%, 25.1%)
Fauquier County	51061	15.4%	(8.3%, 26.7%)	18.7%	(16.8%, 20.7%)
Frederick County	51069	17.6%	(10.4%, 28.2%)	20.7%	(18.4%, 23.3%)
Highland County	51091	0.0%	(0.0%, 83.2%)	15.5%	(9.3%, 24.7%)
King George County	51099	25.7%	(8.0%, 58.0%)	24.9%	(22.5%, 27.5%)
Madison County	51113	17.4%	(6.9%, 37.8%)	18.9%	(14.1%, 24.7%)
Orange County	51137	29.0%	(15.2%, 48.1%)	25.4%	(21.9%, 29.1%)
Page County	51139	25.2%	(6.3%, 62.8%)	23.4%	(18.7%, 29.0%)
Rappahannock County	51157	20.2%	(5.1%, 54.7%)	20.1%	(16.5%, 24.2%)
Rockbridge County	51163	24.3%	(11.1%, 45.2%)	30.6%	(27.3%, 34.1%)
Rockingham County	51165	8.4%	(4.4%, 15.5%)	20.9%	(18.0%, 24.2%)
Shenandoah County	51171	24.0%	(12.1%, 42.1%)	30.8%	(26.8%, 35.1%)
Spotsylvania County	51177	29.6%	(19.0%, 43.0%)	22.4%	(20.5%, 24.4%)
Stafford County	51179	20.9%	(13.3%, 31.2%)	17.8%	(16.3%, 19.5%)
Warren County	51187	40.4%	(22.7%, 61.0%)	24.8%	(22.1%, 27.6%)
Buena Vista City	51530	0.0%	(-0.0%, 89.6%)	26.0%	(20.1%, 32.9%)
Fredericksburg City	51630	25.8%	(10.7%, 50.1%)	18.0%	(12.8%, 24.7%)
Harrisonburg City	51660	26.8%	(6.2%, 66.7%)	21.5%	(15.0%, 29.9%)
Lexington City	51678	0.0%	(0.0%, 99.4%)	33.8%	(2.3%, 91.9%)
Staunton City	51790	25.9%	(5.4%, 68.2%)	23.7%	(16.7%, 32.4%)
Waynesboro City	51820	38.9%	(14.8%, 70.0%)	29.3%	(24.5%, 34.7%)
Winchester City	51840	34.6%	(15.3%, 60.8%)	26.1%	(22.7%, 29.9%)

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County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE 95% CI
Albemarle County	51003	12.1%	(6.4%, 21.8%)	16.8%	(14.2%, 19.6%)
Alleghany County	51005	25.1%	(12.6%, 43.9%)	29.5%	(25.5%, 33.9%)
Amherst County	51009	16.3%	(6.0%, 37.3%)	30.2%	(26.0%, 34.8%)
Appomattox County	51011	38.9%	(18.7%, 63.8%)	36.2%	(32.3%, 40.4%)
Arlington City	51013	7.4%	(3.9%, 13.5%)	11.7%	(10.0%, 13.7%)
Bedford County	51019	18.2%	(10.6%, 29.4%)	24.1%	(21.2%, 27.1%)
Botetourt County	51023	20.2%	(10.8%, 34.6%)	25.2%	(21.9%, 28.8%)
Campbell County	51031	32.8%	(18.7%, 50.7%)	26.7%	(23.7%, 29.9%)
Craig County	51045	48.5%	(6.3%, 92.9%)	44.3%	(33.1%, 56.1%)
Fairfax County	51059	11.5%	(8.2%, 15.9%)	10.9%	(9.7%, 12.2%)
Fluvanna County	51065	25.1%	(10.3%, 49.6%)	21.5%	(19.3%, 23.8%)
Greene County	51079	22.8%	(7.5%, 51.6%)	21.9%	(17.6%, 26.9%)
Loudoun County	51107	16.7%	(11.1%, 24.4%)	14.4%	(12.4%, 16.8%)
Louisa County	51109	11.6%	(4.2%, 28.4%)	21.2%	(18.4%, 24.4%)
Nelson County	51125	43.3%	(24.1%, 64.8%)	29.9%	(24.1%, 36.4%)
Prince William County	51153	14.6%	(10.5%, 20.0%)	15.5%	(13.5%, 17.7%)
Roanoke County	51161	29.6%	(21.6%, 39.0%)	25.8%	(23.2%, 28.7%)
Alexandria City	51510	17.1%	(8.7%, 31.0%)	12.6%	(10.9%, 14.5%)
Charlottesville City	51540	27.8%	(9.2%, 59.5%)	27.7%	(21.9%, 34.3%)
Covington City	51580	0.0%	(0.0%, 99.4%)	25.7%	(8.2%, 57.5%)
Fairfax City	51600	11.9%	(6.1%, 22.1%)	13.0%	(11.2%, 15.0%)
Falls Church City	51610	0.0%	(-0.0%, 72.7%)	12.6%	(9.8%, 16.1%)
Lynchburg City	51680	24.3%	(11.4%, 44.6%)	22.7%	(18.5%, 27.6%)
Manassas City	51683	17.8%	(4.3%, 51.1%)	14.8%	(10.6%, 20.4%)
Manassas Park City	51685	0.0%	(-0.0%, 96.8%)	20.6%	(15.3%, 27.1%)
Salem City	51775	7.5%	(1.1%, 37.8%)	27.0%	(22.6%, 31.9%)

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County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE 95% CI
Bland County	51021	38.4%	(9.8%, 78.1%)	36.8%	(32.4%, 41.5%)
Buchanan County	51027	37.6%	(23.6%, 54.1%)	42.2%	(36.4%, 48.2%)
Carroll County	51035	26.1%	(13.3%, 44.9%)	34.7%	(30.4%, 39.3%)
Dickenson County	51051	28.5%	(15.2%, 47.1%)	39.1%	(32.0%, 46.6%)
Floyd County	51063	40.4%	(21.4%, 62.8%)	30.8%	(27.5%, 34.3%)
Franklin County	51067	33.4%	(17.4%, 54.4%)	24.7%	(22.2%, 27.4%)
Giles County	51071	35.6%	(16.9%, 60.0%)	35.8%	(31.7%, 40.0%)
Grayson County	51077	33.8%	(14.1%, 61.4%)	20.3%	(13.2%, 29.9%)
Henry County	51089	25.1%	(15.3%, 38.3%)	31.6%	(27.9%, 35.6%)
Lee County	51105	60.9%	(42.2%, 76.8%)	44.7%	(38.2%, 51.4%)
Montgomery County	51121	26.6%	(16.7%, 39.7%)	24.7%	(20.0%, 30.1%)
Patrick County	51141	33.4%	(16.7%, 55.7%)	33.9%	(30.1%, 37.9%)
Pittsylvania County	51143	31.6%	(22.5%, 42.4%)	30.7%	(28.3%, 33.2%)
Pulaski County	51155	51.4%	(36.1%, 66.4%)	32.4%	(29.1%, 36.0%)
Russell County	51167	51.2%	(33.7%, 68.4%)	40.3%	(34.0%, 47.0%)
Scott County	51169	30.2%	(17.7%, 46.5%)	34.8%	(30.7%, 39.2%)
Smyth County	51173	39.2%	(24.0%, 56.8%)	37.9%	(34.3%, 41.6%)
Tazewell County	51185	27.5%	(16.2%, 42.6%)	37.7%	(31.2%, 44.6%)
Washington County	51191	25.1%	(14.7%, 39.5%)	30.4%	(27.4%, 33.5%)
Wise County	51195	26.0%	(15.2%, 40.6%)	33.3%	(28.6%, 38.5%)
Wythe County	51197	46.0%	(30.4%, 62.4%)	38.8%	(34.0%, 43.8%)
Bristol City	51520	32.8%	(10.4%, 69.1%)	38.6%	(30.5%, 47.4%)
Danville City	51590	40.6%	(20.1%, 65.1%)	32.5%	(29.7%, 35.3%)
Galax City	51640	17.9%	(2.3%, 79.0%)	29.8%	(22.4%, 38.6%)
Martinsville City	51690	47.6%	(12.0%, 85.9%)	31.6%	(24.8%, 39.2%)
Norton City	51720	15.7%	(2.2%, 76.9%)	32.1%	(25.9%, 38.9%)
Radford City	51750	90.8%	(37.7%, 97.5%)	62.9%	(27.5%, 88.3%)
Roanoke City	51770	27.2%	(17.8%, 39.2%)	31.8%	(28.7%, 35.0%)

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County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE 95% CI
Amelia County	51007	39.5%	(16.6%, 68.2%)	27.5%	(22.4%, 33.2%)
Brunswick County	51025	12.2%	(4.1%, 31.2%)	30.9%	(24.9%, 37.7%)
Buckingham County	51029	48.8%	(25.5%, 72.7%)	37.4%	(29.3%, 46.2%)
Charles City County	51036	14.3%	(3.0%, 47.6%)	24.3%	(18.7%, 31.0%)
Charlotte County	51037	18.5%	(6.6%, 42.1%)	27.4%	(22.2%, 33.2%)
Chesterfield County	51041	21.7%	(16.3%, 28.3%)	21.1%	(19.5%, 22.8%)
Cumberland County	51049	13.8%	(3.0%, 45.5%)	25.3%	(22.4%, 28.6%)
Dinwiddie County	51053	45.8%	(25.8%, 67.4%)	27.3%	(24.7%, 30.1%)
Goochland County	51075	13.6%	(5.4%, 30.4%)	11.3%	(8.9%, 14.3%)
Greensville County	51081	18.8%	(5.3%, 48.8%)	28.5%	(23.7%, 33.9%)
Halifax County	51083	23.6%	(13.6%, 37.7%)	32.9%	(28.2%, 37.9%)
Hanover County	51085	16.2%	(9.7%, 25.7%)	18.2%	(16.1%, 20.5%)
Henrico County	51087	17.7%	(12.8%, 23.9%)	22.1%	(19.7%, 24.7%)
Lunenburg County	51111	42.2%	(16.2%, 73.5%)	26.7%	(22.4%, 31.6%)
Mecklenburg County	51117	25.1%	(11.7%, 45.7%)	28.2%	(25.2%, 31.3%)
New Kent County	51127	34.5%	(13.6%, 63.8%)	23.2%	(18.6%, 28.6%)
Nottoway County	51135	22.5%	(6.5%, 54.6%)	35.6%	(28.2%, 43.7%)
Powhatan County	51145	2.5%	(1.2%, 37.2%)	14.2%	(12.2%, 16.4%)
Prince Edward County	51147	13.3%	(4.7%, 32.2%)	15.8%	(11.4%, 21.5%)
Prince George County	51149	26.2%	(14.4%, 42.7%)	36.6%	(30.5%, 43.1%)
Surry County	51181	31.8%	(7.0%, 74.2%)	34.7%	(25.4%, 45.3%)
Sussex County	51183	22.4%	(8.5%, 47.1%)	26.5%	(20.9%, 33.1%)
Colonial Heights City	51570	0.0%	(0.0%, 39.4%)	22.6%	(18.0%, 28.1%)
Emporia City	51595	31.1%	(3.1%, 86.3%)	36.8%	(29.1%, 45.2%)
Hopewell City	51670	14.6%	(5.4%, 34.1%)	31.1%	(27.1%, 35.5%)
Petersburg City	51730	27.4%	(13.1%, 48.4%)	33.4%	(30.1%, 36.8%)
Richmond City	51760	30.7%	(23.3%, 39.1%)	26.5%	(24.0%, 29.1%)

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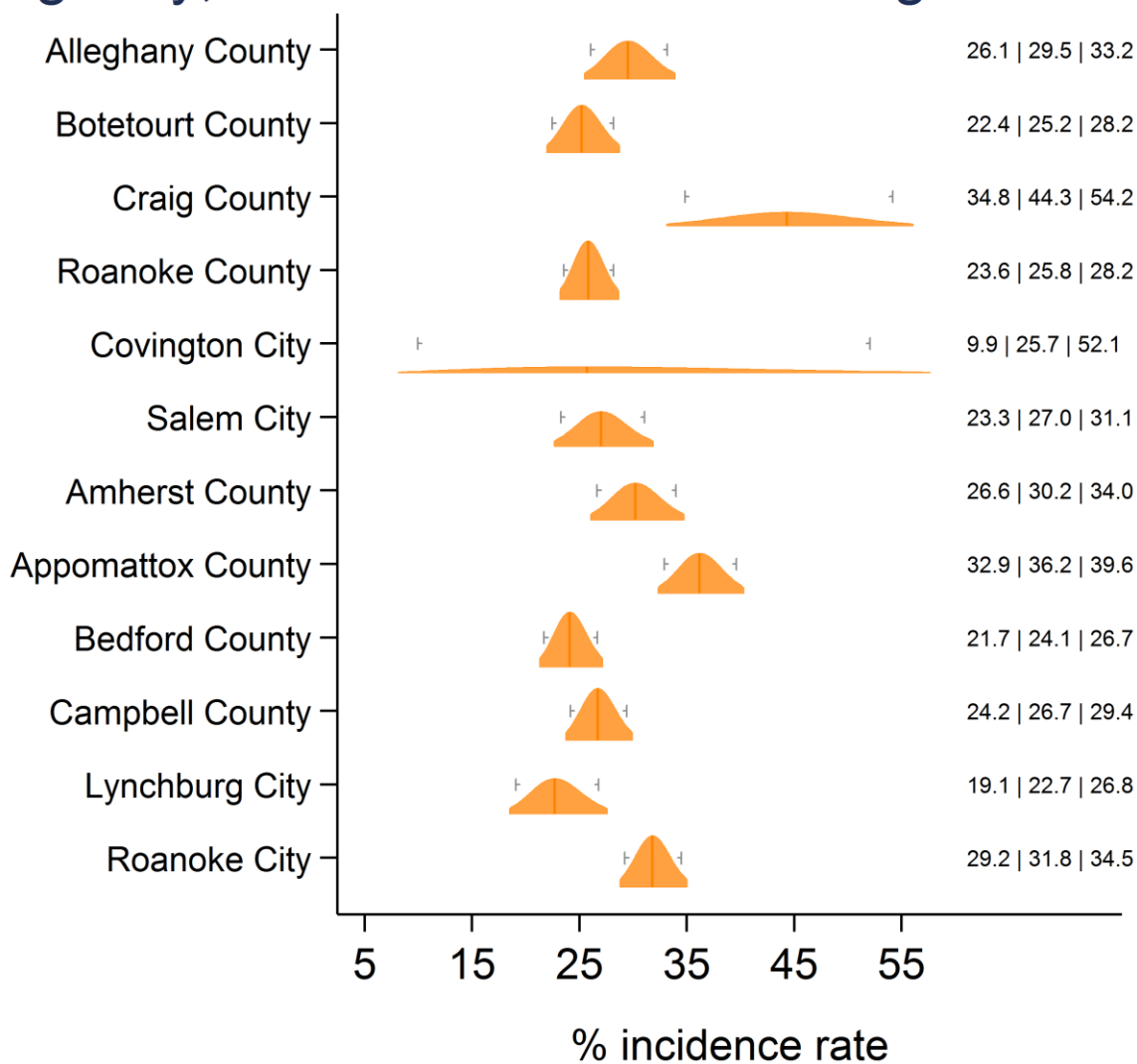


County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE 95% CI
Accomack County	51001	16.8%	(8.3%, 31.1%)	21.6%	(17.2%, 26.8%)
Essex County	51057	26.0%	(8.2%, 58.0%)	22.3%	(18.3%, 26.9%)
Gloucester County	51073	20.4%	(9.1%, 39.6%)	23.6%	(21.1%, 26.3%)
Isle of Wight County	51093	21.7%	(11.4%, 37.3%)	22.4%	(20.5%, 24.5%)
James City County	51095	21.8%	(12.1%, 36.2%)	16.6%	(13.9%, 19.6%)
King and Queen County	51097	24.0%	(3.3%, 74.6%)	18.5%	(13.5%, 24.8%)
King William County	51101	12.0%	(2.9%, 38.4%)	23.8%	(20.5%, 27.4%)
Lancaster County	51103	9.5%	(2.7%, 28.6%)	16.1%	(8.6%, 28.3%)
Mathews County	51115	18.8%	(6.9%, 42.1%)	14.5%	(9.3%, 22.0%)
Middlesex County	51119	34.2%	(7.9%, 76.0%)	20.3%	(15.2%, 26.6%)
Northampton County	51131	26.7%	(12.0%, 49.5%)	18.3%	(14.0%, 23.7%)
Northumberland County	51133	14.5%	(3.4%, 44.7%)	22.7%	(18.6%, 27.4%)
Richmond County	51159	26.2%	(12.5%, 46.8%)	24.4%	(21.0%, 28.2%)
Southampton County	51175	50.1%	(23.3%, 76.8%)	29.8%	(26.0%, 34.0%)
Westmoreland County	51193	33.4%	(10.6%, 67.9%)	24.2%	(20.8%, 28.0%)
York County	51199	17.1%	(8.5%, 31.4%)	19.8%	(17.5%, 22.3%)
Chesapeake City	51550	21.5%	(15.4%, 29.1%)	24.2%	(22.2%, 26.3%)
Franklin City	51620	29.0%	(12.9%, 52.9%)	17.8%	(9.5%, 30.9%)
Hampton City	51650	29.5%	(20.8%, 39.9%)	25.8%	(23.5%, 28.1%)
Newport News City	51700	28.5%	(20.3%, 38.5%)	28.5%	(26.1%, 31.1%)
Norfolk City	51710	21.2%	(14.8%, 29.3%)	26.3%	(21.7%, 31.6%)
Poquoson City	51735	31.6%	(3.6%, 85.2%)	16.9%	(13.7%, 20.7%)
Portsmouth City	51740	22.1%	(13.0%, 35.0%)	27.7%	(25.1%, 30.5%)
Suffolk City	51800	23.0%	(13.4%, 36.7%)	22.8%	(20.7%, 24.9%)
Virginia Beach City	51810	24.1%	(18.1%, 31.3%)	25.4%	(23.2%, 27.8%)
Williamsburg City	51830	15.7%	(2.0%, 63.2%)	7.7%	(3.3%, 17.2%)



Section 4: Graphical representation

Current tobacco use Alleghany, Roanoke and Central Virginia HDs

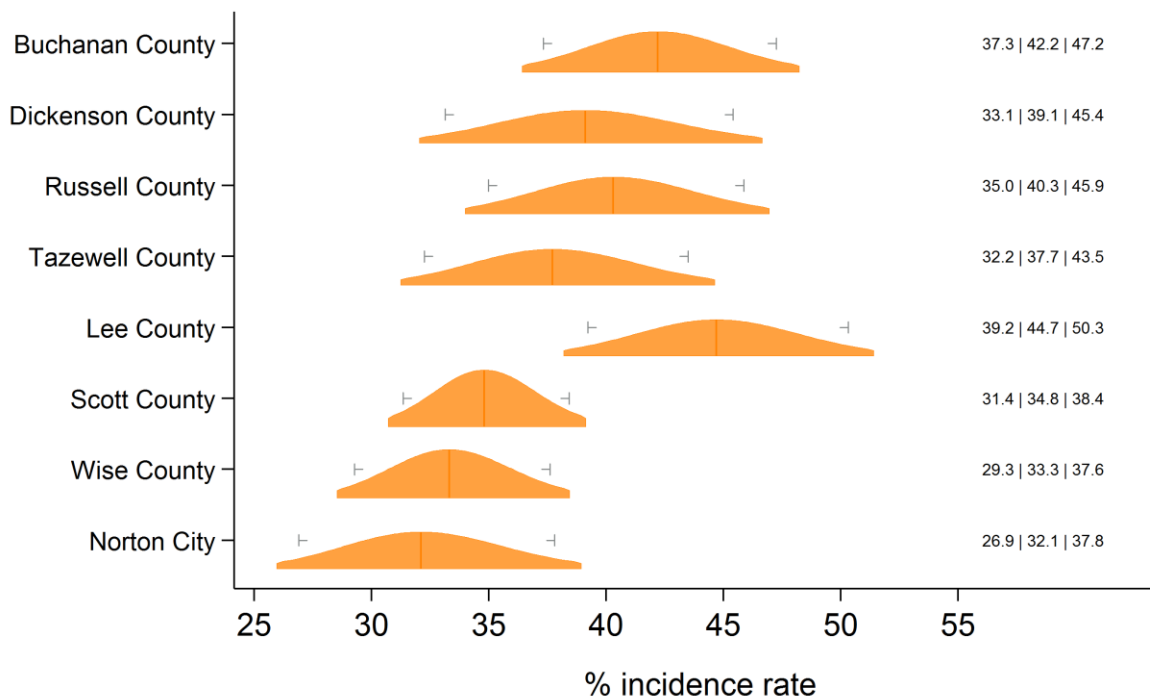


Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
 Gray markers: 90% confidence interval

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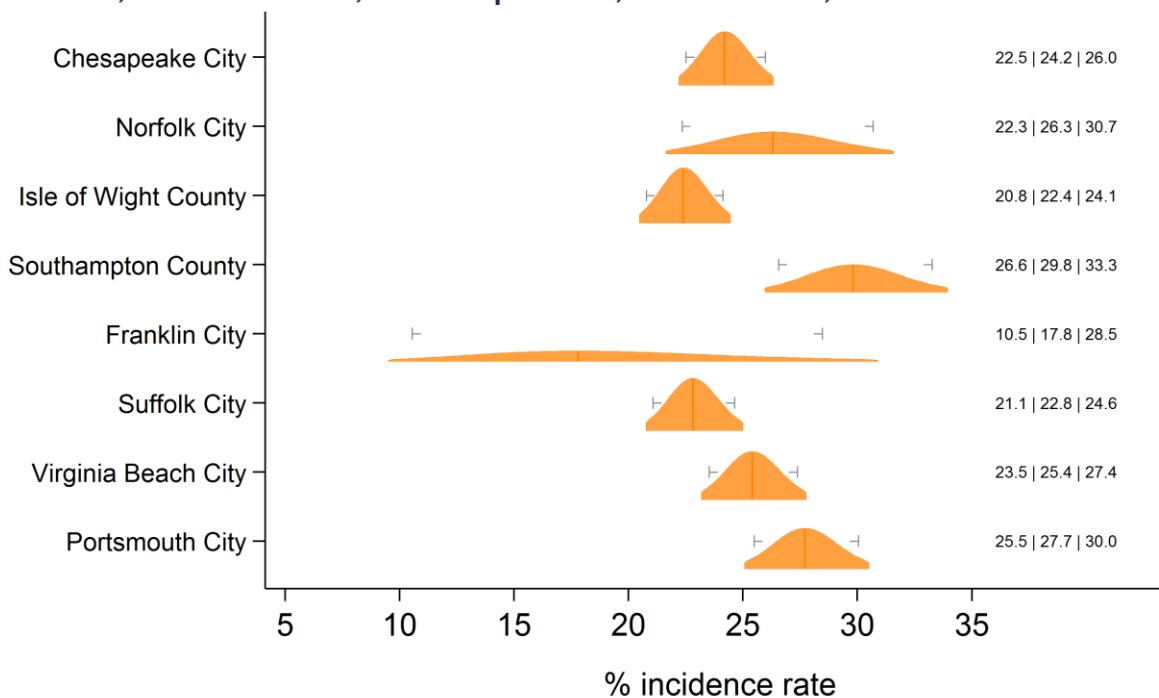
Current tobacco use Cumberland Plateau and Lenowisco HDs



Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
 Gray markers: 90% confidence interval



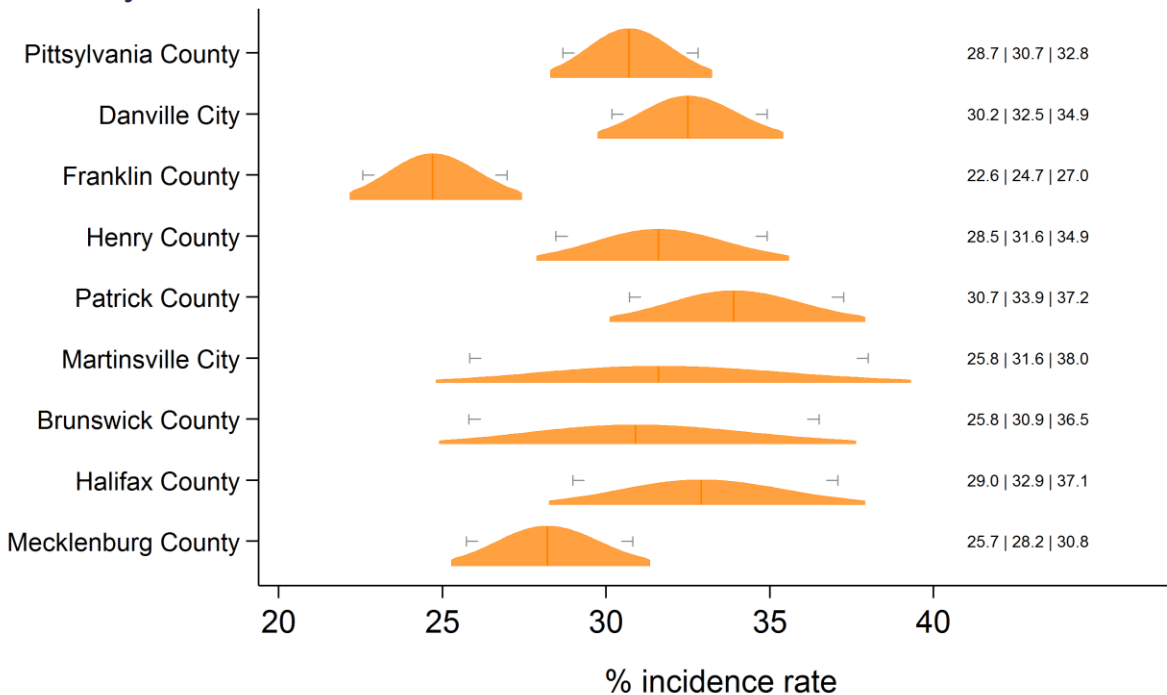
Current tobacco use Norfolk, Portsmouth, Chesapeake, VA Beach, W. Tidewater HDs



Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
 Gray markers: 90% confidence interval



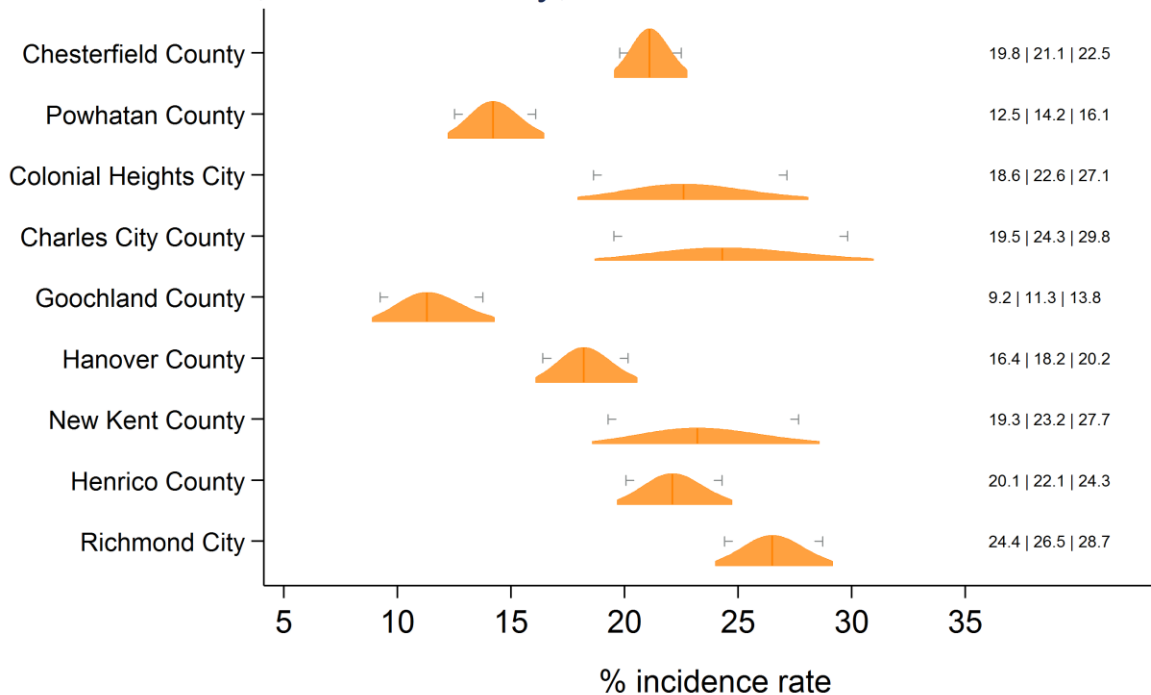
Current tobacco use Pittsylvania/Danville, Southside and West Piedmont HDs



Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
 Gray markers: 90% confidence interval



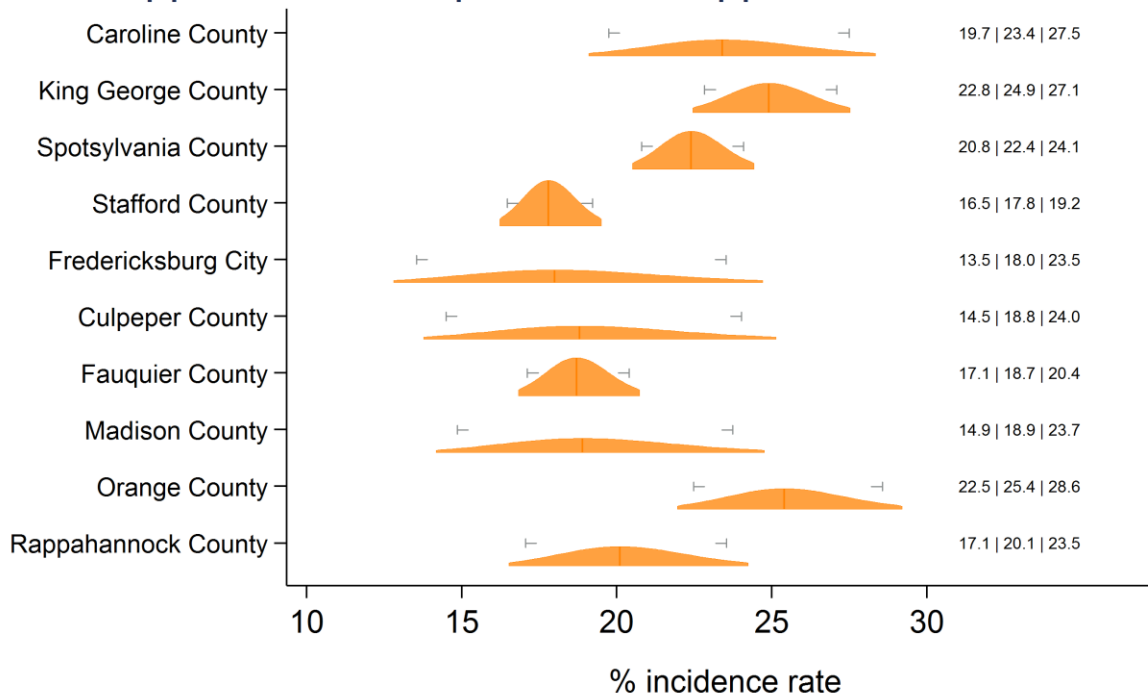
Current tobacco use Chesterfield, Chickahominy, Henrico and Richmond HDs



Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
 Gray markers: 90% confidence interval



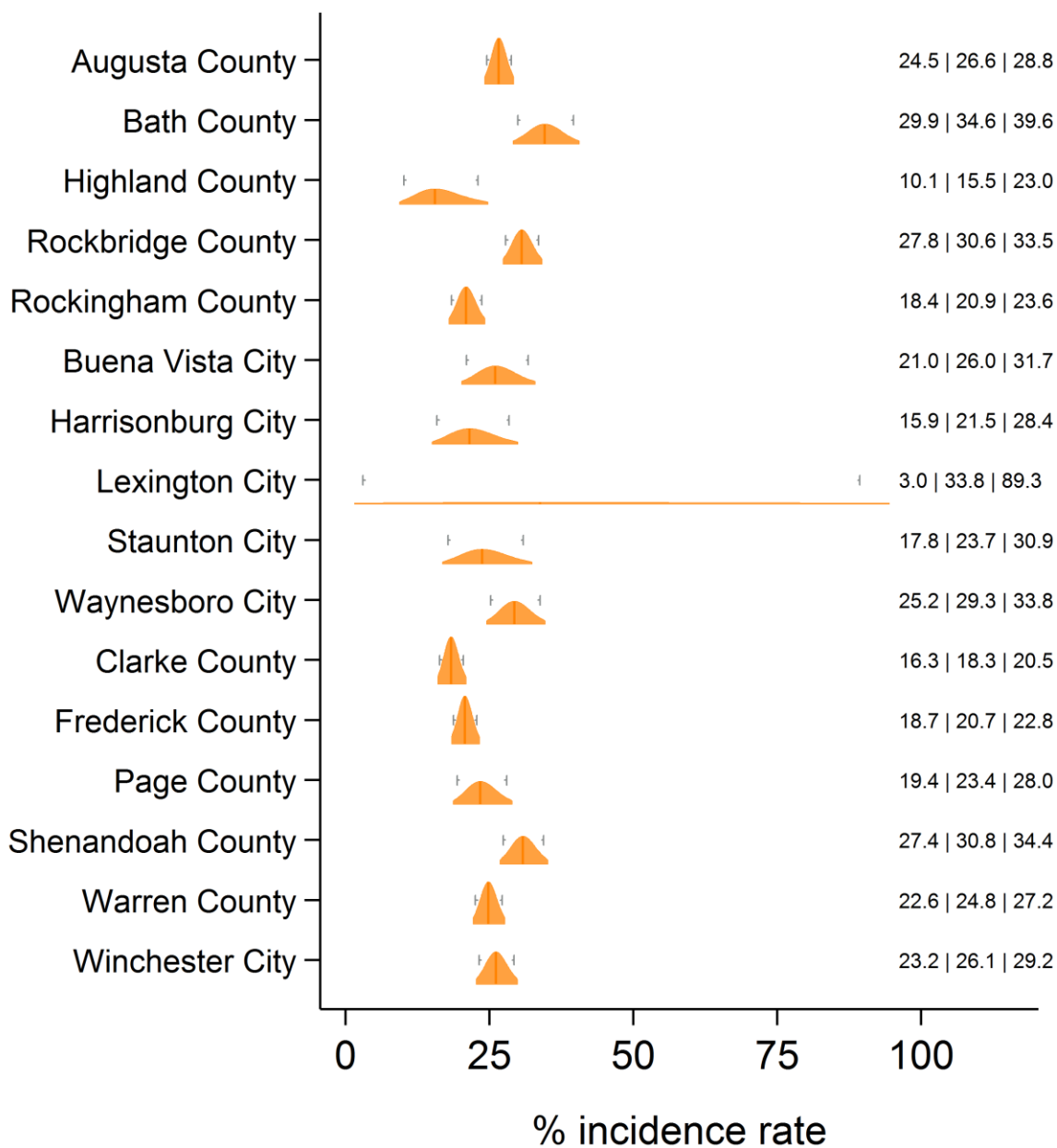
Current tobacco use Rappahannock/Rapidan and Rappahannock HDs



Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
 Gray markers: 90% confidence interval



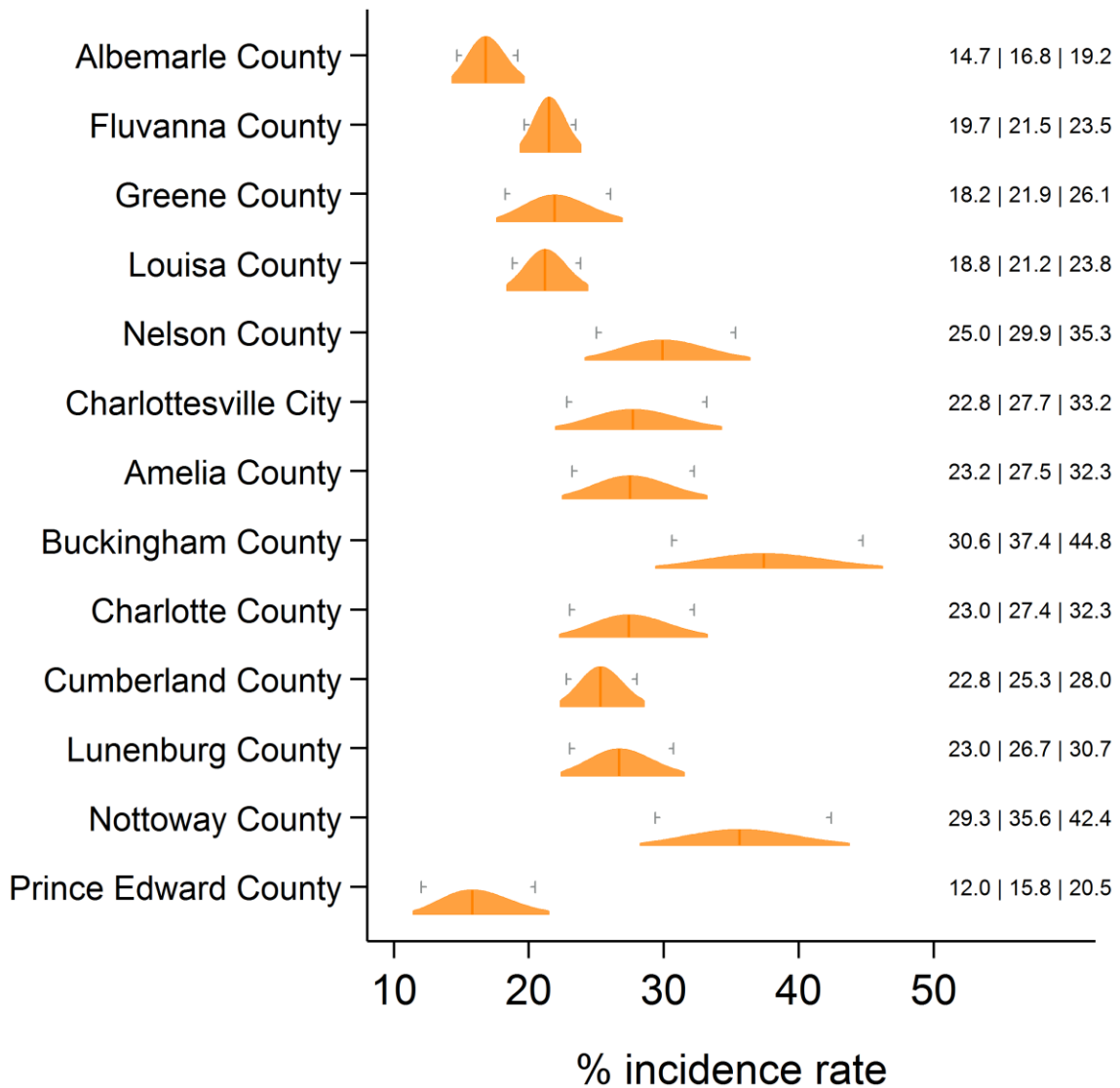
Current tobacco use Central Shenandoah and Lord Fairfax HDs



Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
 Gray markers: 90% confidence interval



Current tobacco use Thomas Jefferson and Piedmont HDs

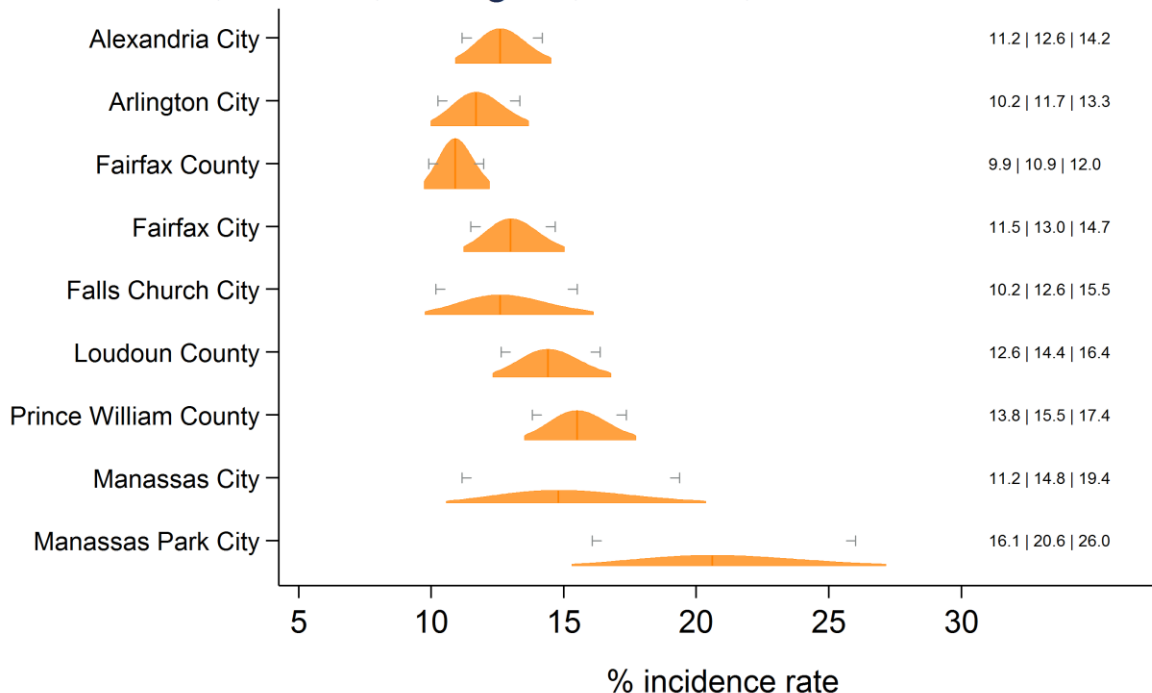


Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
 Gray markers: 90% confidence interval

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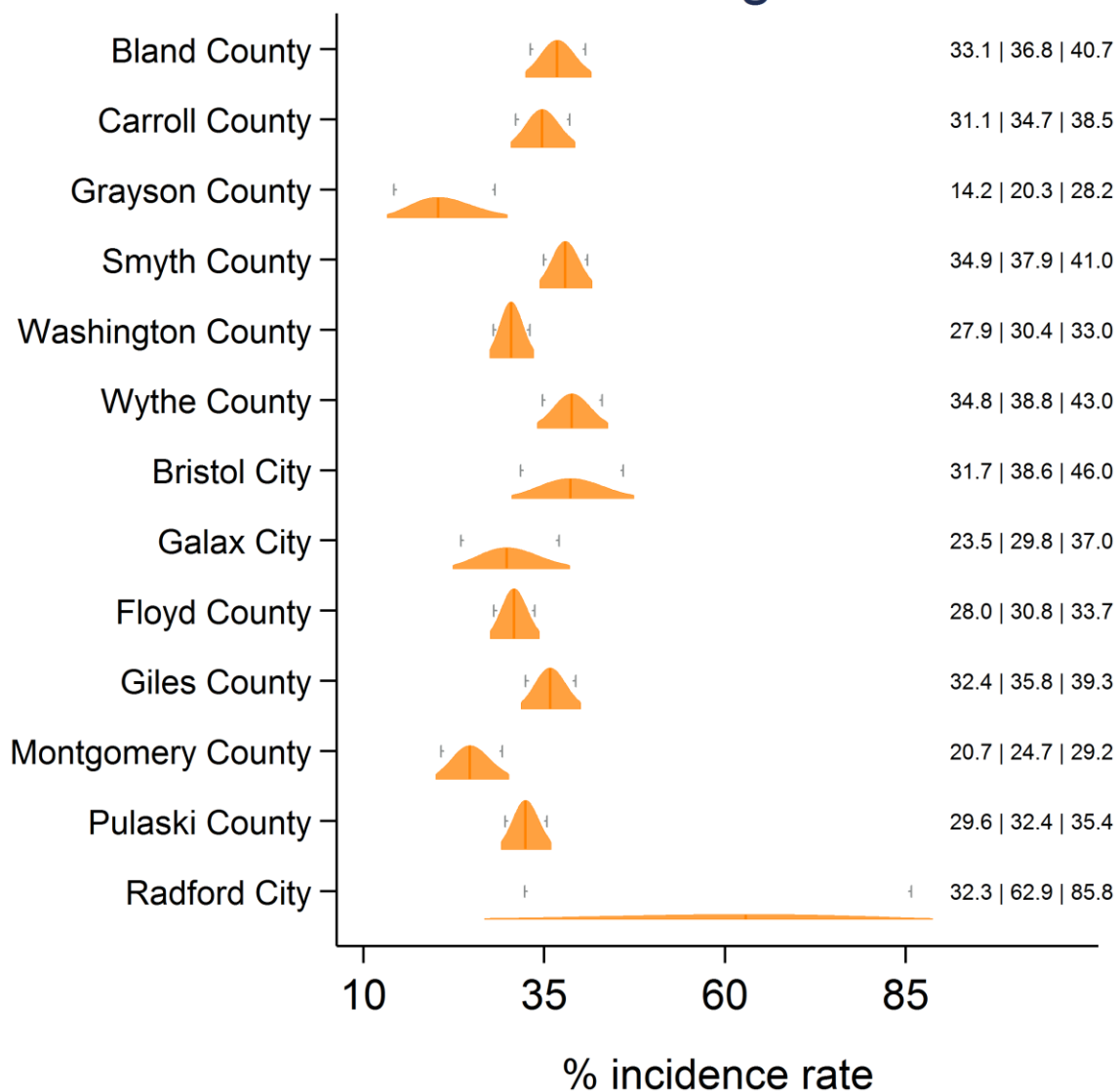
Current tobacco use Alexandria, Fairfax, Arlington, Loudon, Prince William HDs



Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
 Gray markers: 90% confidence interval



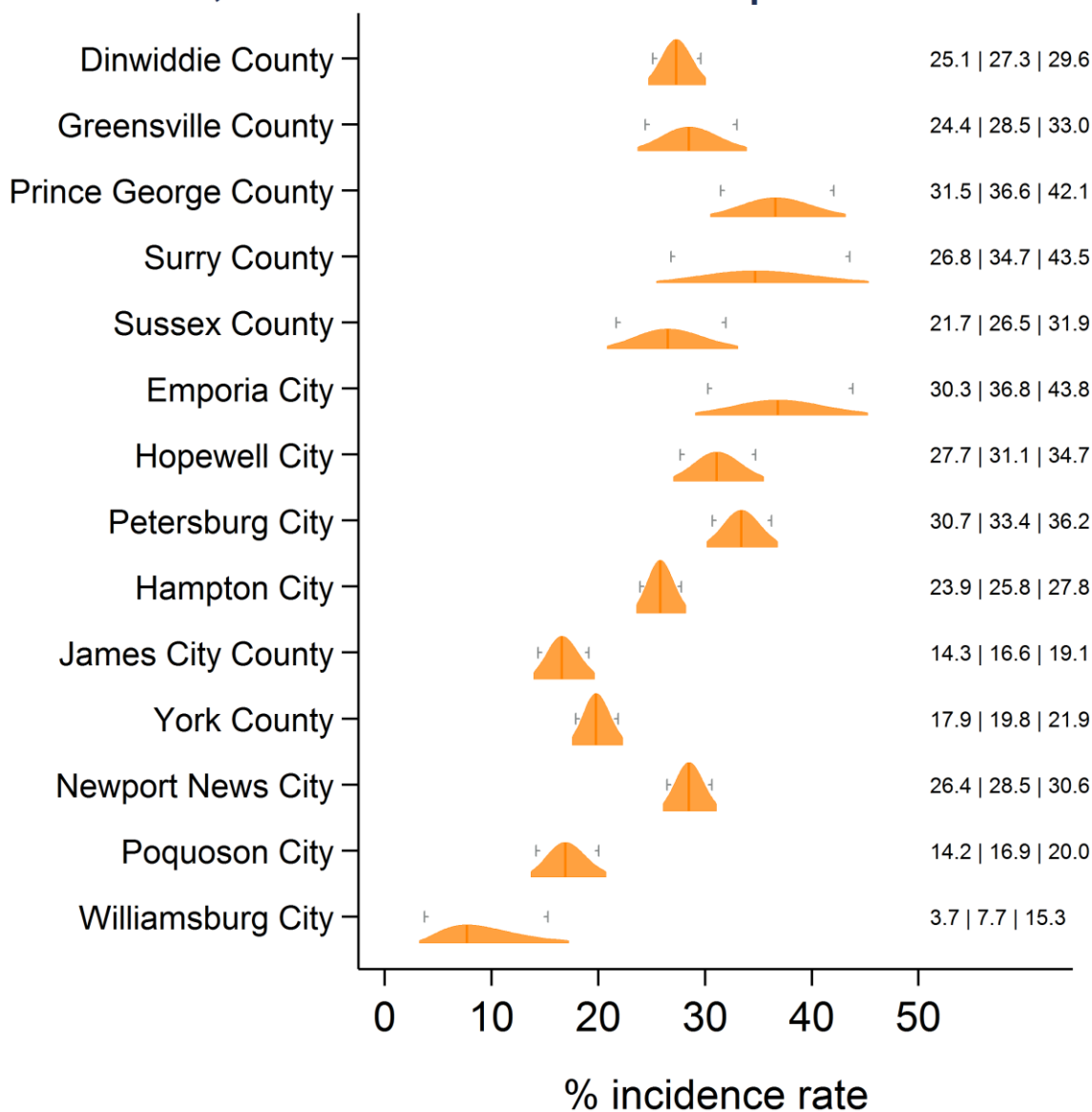
Current tobacco use New River and Mount Rogers HDs



Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
 Gray markers: 90% confidence interval



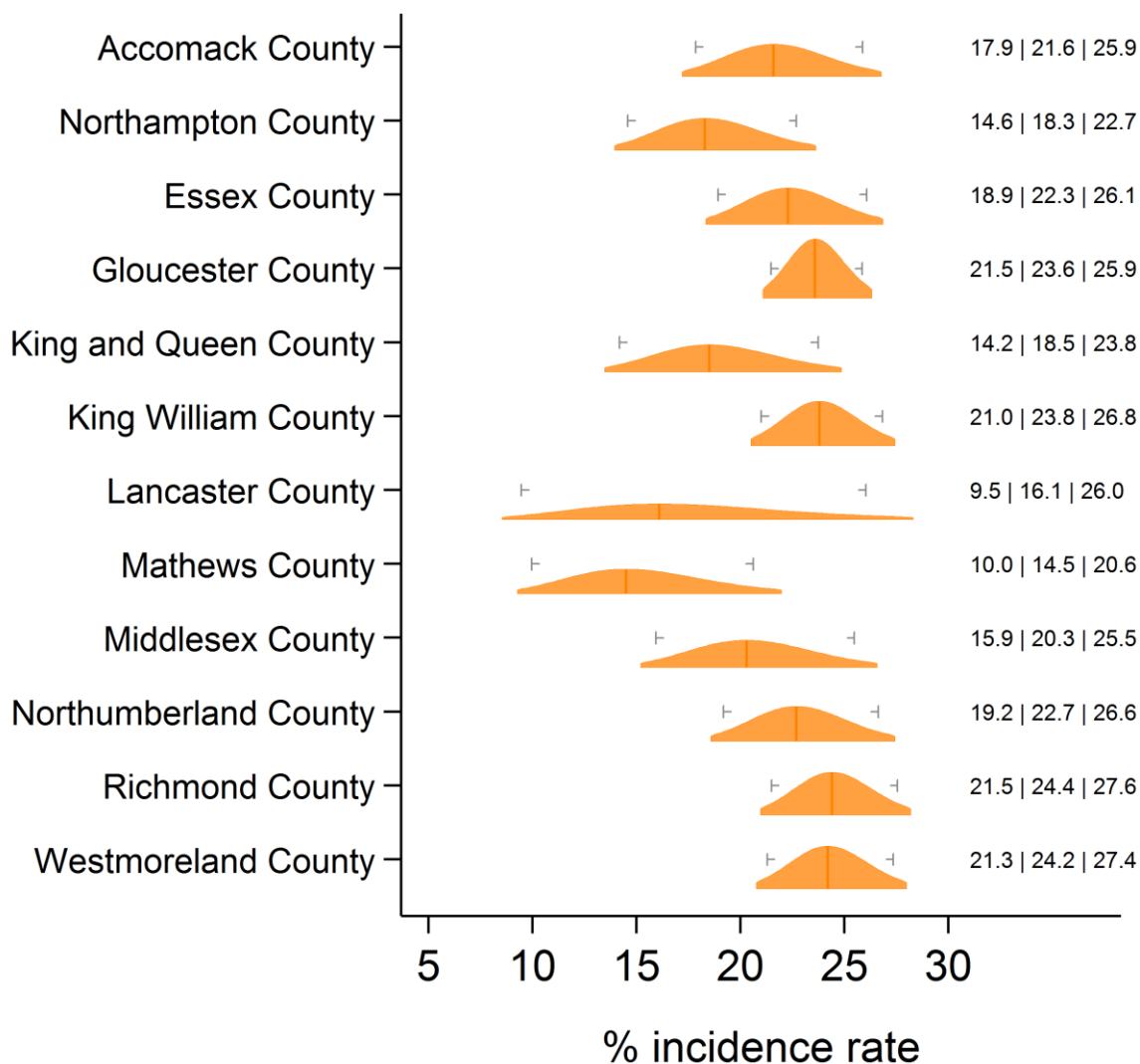
Current tobacco use Crater, Peninsula and Hampton HDs



Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
 Gray markers: 90% confidence interval



Current tobacco use Eastern Shore and Three Rivers HDs



Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
 Gray markers: 90% confidence interval



Section 5: Additional diagnostics

Direct estimate is inside the 95% SAE Wilson CI: 47 areas.

Direct estimate is outside the 95% SAE Wilson CI: 86 areas.

SAE estimate is inside the 95% direct Wilson CI: 131 areas.

SAE estimate is outside the 95% direct Wilson CI: 2 areas.

SAE Wilson 95% CI is fully inside the 95% direct Wilson CI: 115 areas.

SAE Wilson 95% CI partially overlaps with the 95% direct Wilson CI: 18 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: 125 areas.

SAE standard error is greater than the (nonzero) direct standard error: 1 areas.

Direct standard error is zero: 7 areas.

Proportion of SAE variance due to ACS sampling error: min = 0.04%; med = 4.64%; max = 19.78%.

Proportion of SAE variance to sampling error in regression coefficient estimates: min = 79.70%; med = 93.31%; max = 99.84%.

Proportion of SAE variance due to model selection: min = 0.06%; med = 1.16%; max = 17.93%.