

Outcome 18: Ever Tested for HIV

Internal variable name: outc18_hiv_test

Definition: Have you ever been tested for HIV? Do not count tests you may have had as part of a blood donation. Include testing fluid from your mouth.

Predictive models

	Mixed, demos only	Logit, no area effects	Mixed with area covariates
	b/se	b/se	b/se
Outcome 18: Ever Tested for HIV			
NH White	0.0000 (.)	0.0000 (.)	0.0000 (.)
NH Black vs. NH White	0.6395*** (0.0860)	0.5269*** (0.0951)	0.5269*** (0.0887)
NH Asian vs. NH White	-0.8325*** (0.1702)	-0.8403*** (0.2010)	-0.8402*** (0.1697)
NH Other vs. NH White	0.2357 (0.1380)	0.2009 (0.1470)	0.2009 (0.1381)
Hispanic vs. NH White	0.3108** (0.1007)	0.2741* (0.1268)	0.2741** (0.0979)
SEX OF RESPONDENT=1	0.0000 (.)	0.0000 (.)	0.0000 (.)
Female	0.1253 (0.0784)	0.1288 (0.0672)	0.1288 (0.0770)
Age 18-34 vs. 65+	0.9024*** (0.0756)	0.8917*** (0.0946)	0.8916*** (0.0748)
Age 35-44 vs. 65+	1.5067*** (0.1277)	1.4998*** (0.1074)	1.4998*** (0.1283)
Age 45-54 vs. 65+	1.2480*** (0.1238)	1.2516*** (0.1008)	1.2515*** (0.1261)
Age 55-64 vs. 65+	0.9394*** (0.1013)	0.9387*** (0.0928)	0.9387*** (0.1015)
65+	0.0000 (.)	0.0000 (.)	0.0000 (.)
% NH minority among adults 18 to 64		0.4978 (0.3798)	0.4977 (0.3668)
% veterans		3.5536*** (1.0270)	3.5531*** (0.8774)
Percentage calculated by		1.1330	1.1343

dividing Pop_under_5_ACS_15_19 by Tot_Population_ACS_15			
		(5.2380)	(4.9851)
Percentage calculated by dividing Pop_1yr_Over_ACS_15_19 by Tot_Population_ACS_1		-27.3342	-27.3282
		(17.2070)	(15.9563)
VA BRFSS 2017 SAE outc32_hiv_test		0.3979	0.3980
		(0.7492)	(0.7307)
_cons	-1.4477***	24.8932	24.8873
	(0.0875)	(17.2214)	(15.9756)
Area effect variance			
var(_cons[FIPS_county])	0.0453*		0.0000
	(0.0215)		(0.0000)

Number of alternative models used to estimate model error = 6.

Results by health districts

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Augusta County	51015	31.7%	(22.1%, 43.0%)	29.3%	(26.3%, 32.6%)
Bath County	51017	43.5%	(14.9%, 77.2%)	31.6%	(28.6%, 34.7%)
Caroline County	51033	56.6%	(33.1%, 77.4%)	41.0%	(37.4%, 44.7%)
Clarke County	51043	31.8%	(12.6%, 60.2%)	31.0%	(28.1%, 34.0%)
Culpeper County	51047	37.0%	(20.3%, 57.5%)	32.9%	(29.0%, 37.1%)
Fauquier County	51061	38.3%	(25.3%, 53.3%)	34.7%	(32.1%, 37.5%)
Frederick County	51069	40.8%	(27.9%, 55.1%)	34.3%	(31.3%, 37.4%)
Highland County	51091	39.6%	(7.5%, 84.1%)	30.4%	(25.8%, 35.5%)
King George County	51099	50.8%	(29.5%, 71.8%)	44.0%	(41.0%, 47.1%)
Madison County	51113	49.9%	(24.5%, 75.4%)	32.6%	(29.5%, 36.0%)
Orange County	51137	56.0%	(35.7%, 74.4%)	35.5%	(32.0%, 39.1%)
Page County	51139	20.7%	(9.3%, 45.3%)	30.9%	(27.4%, 34.7%)
Rappahannock County	51157	0.0%	(0.0%, 50.4%)	29.9%	(25.7%, 34.4%)
Rockbridge County	51163	32.8%	(18.4%, 51.2%)	29.5%	(26.5%, 32.8%)
Rockingham County	51165	23.5%	(14.1%, 36.6%)	31.8%	(28.5%, 35.3%)
Shenandoah County	51171	30.1%	(16.7%, 48.0%)	31.9%	(28.7%, 35.3%)
Spotsylvania County	51177	50.0%	(38.1%, 61.9%)	42.2%	(39.9%, 44.5%)
Stafford County	51179	47.2%	(36.3%, 58.4%)	48.6%	(44.9%, 52.3%)
Warren County	51187	43.0%	(25.2%, 62.8%)	33.9%	(29.6%, 38.5%)
Buena Vista City	51530	52.2%	(11.3%, 90.3%)	34.1%	(28.1%, 40.8%)
Fredericksburg City	51630	21.4%	(9.9%, 40.2%)	43.6%	(39.0%, 48.3%)
Harrisonburg City	51660	37.5%	(14.0%, 68.8%)	29.3%	(26.1%, 32.6%)
Lexington City	51678	.%	(.%, .%)	26.2%	(19.1%, 34.8%)
Staunton City	51790	71.1%	(28.7%, 93.8%)	33.0%	(30.6%, 35.4%)
Waynesboro	51820	46.1%	(6.1%, 91.9%)	32.1%	(27.6%, 36.9%)

City					
Winchester City	51840	35.3%	(11.7%, 69.2%)	39.6%	(32.6%, 47.2%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Albemarle County	51003	37.1%	(25.0%, 51.0%)	33.8%	(31.7%, 36.1%)
Alleghany County	51005	33.4%	(14.0%, 60.8%)	29.0%	(26.2%, 31.8%)
Amherst County	51009	33.4%	(19.1%, 51.6%)	32.1%	(29.6%, 34.8%)
Appomattox County	51011	42.9%	(25.9%, 61.7%)	35.3%	(32.7%, 38.0%)
Arlington City	51013	42.4%	(32.9%, 52.4%)	39.4%	(33.8%, 45.3%)
Bedford County	51019	38.8%	(28.1%, 50.8%)	32.9%	(29.8%, 36.2%)
Botetourt County	51023	37.5%	(19.1%, 60.3%)	27.7%	(24.3%, 31.4%)
Campbell County	51031	39.2%	(26.9%, 53.0%)	37.6%	(34.4%, 41.0%)
Craig County	51045	51.3%	(11.3%, 89.6%)	30.6%	(26.2%, 35.4%)
Fairfax County	51059	40.1%	(35.5%, 44.8%)	36.1%	(34.1%, 38.2%)
Fluvanna County	51065	17.4%	(8.0%, 42.3%)	33.0%	(30.0%, 36.0%)
Greene County	51079	45.5%	(14.4%, 80.5%)	34.3%	(31.5%, 37.2%)
Loudoun County	51107	45.5%	(37.6%, 53.5%)	36.9%	(34.0%, 39.9%)
Louisa County	51109	34.1%	(16.7%, 57.1%)	35.4%	(33.0%, 37.9%)
Nelson County	51125	32.0%	(7.7%, 72.7%)	33.0%	(30.0%, 36.1%)
Prince William County	51153	47.8%	(40.6%, 55.1%)	45.6%	(43.0%, 48.4%)
Roanoke County	51161	40.9%	(30.9%, 51.8%)	29.0%	(26.4%, 31.6%)
Alexandria City	51510	49.2%	(38.1%, 60.5%)	44.8%	(40.8%, 48.9%)
Charlottesville City	51540	38.8%	(21.1%, 60.0%)	30.4%	(27.2%, 33.7%)
Covington City	51580	100.0%	(18.8%, 100.0%)	29.3%	(24.2%, 35.0%)
Fairfax City	51600	39.6%	(24.4%, 57.2%)	34.0%	(30.4%, 37.8%)
Falls Church City	51610	20.9%	(5.7%, 53.4%)	31.9%	(27.3%, 36.8%)
Lynchburg City	51680	40.3%	(27.4%, 54.7%)	39.3%	(35.6%, 43.1%)
Manassas City	51683	22.7%	(7.8%, 50.6%)	42.9%	(37.6%, 48.3%)
Manassas Park City	51685	12.3%	(3.4%, 63.9%)	36.7%	(32.0%, 41.8%)
Salem City	51775	47.2%	(11.1%, 86.4%)	33.0%	(30.1%, 36.1%)

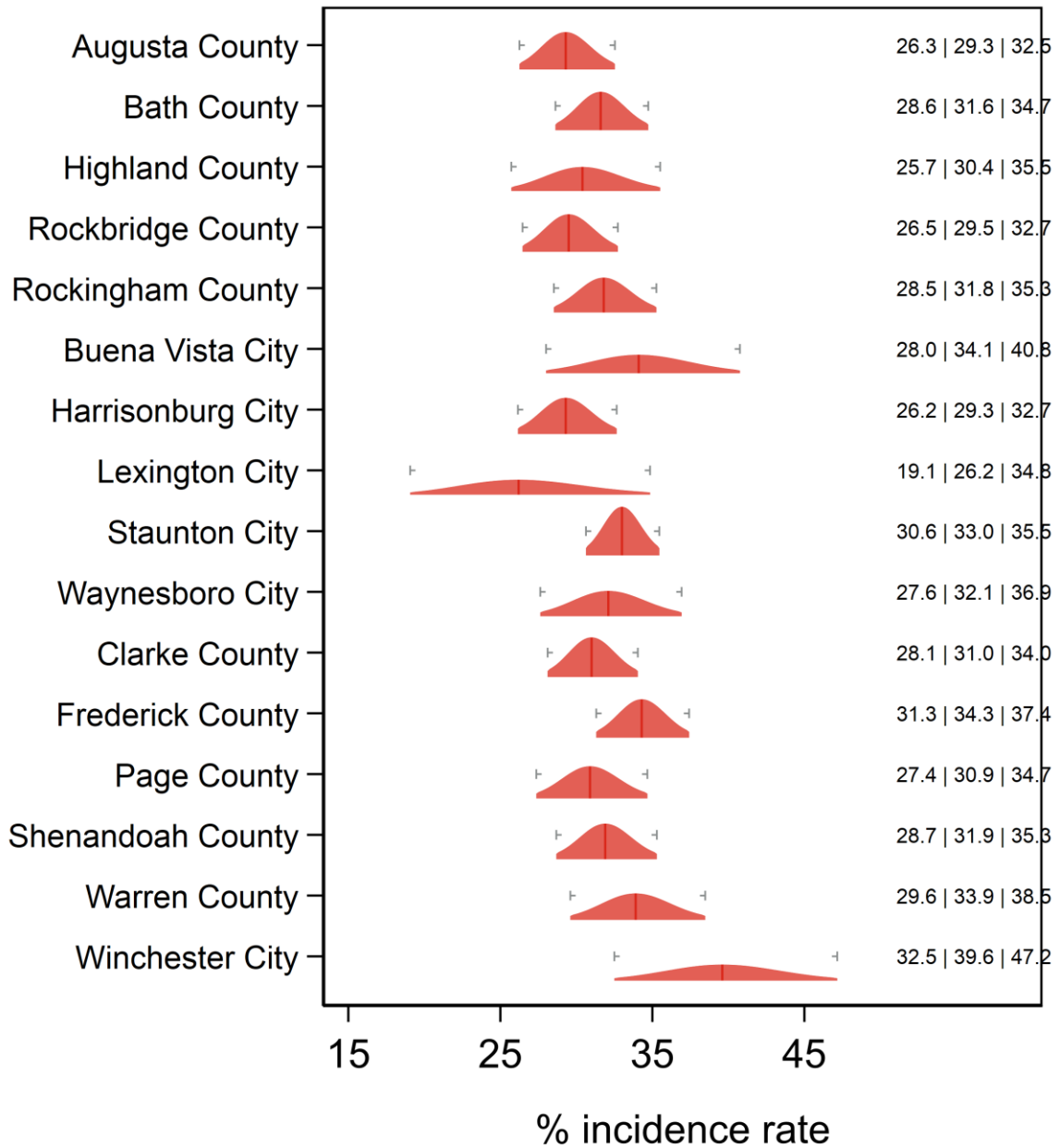
County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Bland County	51021	13.7%	(3.3%, 72.7%)	23.8%	(20.0%, 28.0%)
Buchanan County	51027	45.1%	(22.9%, 69.3%)	25.2%	(22.1%, 28.6%)
Carroll County	51035	31.8%	(15.0%, 55.3%)	27.8%	(24.8%, 31.1%)
Dickenson County	51051	58.1%	(33.4%, 79.3%)	29.6%	(26.1%, 33.4%)
Floyd County	51063	25.0%	(10.2%, 49.6%)	32.2%	(27.6%, 37.1%)
Franklin County	51067	22.6%	(12.8%, 36.8%)	29.6%	(26.8%, 32.5%)
Giles County	51071	15.7%	(4.7%, 41.6%)	28.8%	(25.3%, 32.6%)
Grayson County	51077	43.0%	(19.2%, 70.6%)	26.9%	(23.9%, 30.1%)
Henry County	51089	46.0%	(32.0%, 60.6%)	34.6%	(31.9%, 37.4%)
Lee County	51105	4.7%	(0.8%, 22.2%)	27.1%	(24.3%, 30.1%)
Montgomery County	51121	26.3%	(17.4%, 37.8%)	30.1%	(26.9%, 33.6%)
Patrick County	51141	11.6%	(4.0%, 29.4%)	28.4%	(25.2%, 31.9%)
Pittsylvania County	51143	42.8%	(30.2%, 56.3%)	33.3%	(30.0%, 36.9%)
Pulaski County	51155	45.4%	(27.6%, 64.4%)	31.0%	(27.7%, 34.5%)
Russell County	51167	26.5%	(11.9%, 49.2%)	24.9%	(21.9%, 28.2%)
Scott County	51169	17.4%	(8.2%, 33.0%)	26.1%	(22.4%, 30.2%)
Smyth County	51173	30.5%	(17.1%, 48.4%)	28.4%	(25.7%, 31.2%)
Tazewell County	51185	50.3%	(36.1%, 64.5%)	32.7%	(27.3%, 38.6%)
Washington County	51191	13.4%	(7.4%, 23.0%)	26.9%	(24.0%, 30.0%)
Wise County	51195	36.3%	(24.2%, 50.6%)	27.7%	(25.2%, 30.3%)
Wythe County	51197	27.3%	(15.3%, 43.9%)	28.8%	(26.2%, 31.7%)
Bristol City	51520	27.1%	(4.5%, 74.4%)	31.1%	(28.2%, 34.2%)
Danville City	51590	56.6%	(27.1%, 82.0%)	39.0%	(34.3%, 43.9%)
Galax City	51640	100.0%	(0.6%, 100.0%)	32.7%	(25.7%, 40.6%)
Martinsville City	51690	45.1%	(13.2%, 81.6%)	44.3%	(37.2%, 51.6%)
Norton City	51720	88.9%	(2.2%, 99.8%)	33.0%	(25.1%, 41.9%)
Radford City	51750	32.6%	(13.8%, 59.4%)	27.5%	(23.8%, 31.6%)
Roanoke City	51770	36.6%	(24.4%, 50.8%)	39.3%	(36.0%, 42.6%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Amelia County	51007	39.2%	(12.9%, 73.8%)	35.0%	(32.0%, 38.0%)
Brunswick County	51025	39.6%	(15.6%, 70.1%)	40.0%	(33.6%, 46.8%)
Buckingham County	51029	45.8%	(19.4%, 74.8%)	36.7%	(32.7%, 40.8%)
Charles City County	51036	83.7%	(12.4%, 98.1%)	36.2%	(30.3%, 42.5%)
Charlotte County	51037	18.2%	(5.4%, 46.3%)	34.0%	(30.5%, 37.6%)
Chesterfield County	51041	37.6%	(29.9%, 46.0%)	39.7%	(37.4%, 42.1%)
Cumberland County	51049	26.5%	(8.6%, 58.2%)	37.6%	(34.2%, 41.1%)
Dinwiddie County	51053	39.8%	(23.1%, 59.3%)	39.7%	(36.5%, 42.9%)
Goochland County	51075	34.4%	(12.5%, 65.7%)	29.6%	(25.7%, 33.8%)
Greensville County	51081	37.3%	(15.3%, 66.2%)	39.5%	(32.5%, 47.0%)
Halifax County	51083	35.9%	(21.0%, 54.1%)	35.5%	(31.6%, 39.7%)
Hanover County	51085	35.9%	(22.0%, 52.7%)	31.1%	(28.6%, 33.7%)
Henrico County	51087	43.6%	(34.6%, 53.0%)	39.7%	(36.5%, 42.9%)
Lunenburg County	51111	19.8%	(6.2%, 48.1%)	36.0%	(32.1%, 40.0%)
Mecklenburg County	51117	53.6%	(37.4%, 69.1%)	38.5%	(34.8%, 42.3%)
New Kent County	51127	39.9%	(18.5%, 65.9%)	32.9%	(29.6%, 36.4%)
Nottoway County	51135	26.8%	(9.0%, 57.4%)	38.4%	(34.9%, 41.9%)
Powhatan County	51145	51.8%	(24.2%, 78.4%)	33.9%	(30.1%, 38.0%)
Prince Edward County	51147	22.2%	(8.4%, 46.8%)	32.5%	(29.4%, 35.8%)
Prince George County	51149	29.8%	(15.4%, 49.8%)	46.3%	(42.0%, 50.7%)
Surry County	51181	71.0%	(34.1%, 92.0%)	43.6%	(39.0%, 48.4%)
Sussex County	51183	52.5%	(26.5%, 77.3%)	44.7%	(37.8%, 51.7%)
Colonial Heights City	51570	53.5%	(29.2%, 76.3%)	38.9%	(34.2%, 43.9%)
Emporia City	51595	39.8%	(3.1%, 93.2%)	36.5%	(28.5%, 45.2%)
Hopewell City	51670	62.7%	(32.9%, 85.2%)	44.0%	(38.4%, 49.8%)
Petersburg	51730	69.0%	(45.3%, 85.7%)	48.9%	(41.7%, 56.1%)

City					
Richmond City	51760	35.3%	(26.0%, 45.8%)	45.3%	(39.9%, 50.8%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Accomack County	51001	54.7%	(39.0%, 69.5%)	37.1%	(33.6%, 40.8%)
Essex County	51057	20.1%	(8.2%, 41.6%)	33.2%	(29.0%, 37.8%)
Gloucester County	51073	35.2%	(20.0%, 54.1%)	36.2%	(32.9%, 39.6%)
Isle of Wight County	51093	58.1%	(35.1%, 78.0%)	39.2%	(35.5%, 43.2%)
James City County	51095	36.5%	(25.1%, 49.7%)	37.1%	(33.7%, 40.6%)
King and Queen County	51097	49.2%	(9.9%, 89.5%)	35.5%	(31.5%, 39.7%)
King William County	51101	52.1%	(21.0%, 81.7%)	31.7%	(28.7%, 34.9%)
Lancaster County	51103	34.6%	(13.2%, 64.7%)	33.6%	(28.5%, 39.1%)
Mathews County	51115	26.4%	(11.9%, 48.7%)	35.8%	(31.7%, 40.1%)
Middlesex County	51119	38.6%	(11.4%, 75.3%)	35.3%	(30.9%, 40.1%)
Northampton County	51131	48.8%	(25.3%, 72.8%)	34.4%	(30.7%, 38.3%)
Northumberland County	51133	26.7%	(9.6%, 55.4%)	33.3%	(28.2%, 38.9%)
Richmond County	51159	44.7%	(28.2%, 62.4%)	30.0%	(25.0%, 35.5%)
Southampton County	51175	41.7%	(19.2%, 68.3%)	41.1%	(37.2%, 45.1%)
Westmoreland County	51193	55.7%	(34.1%, 75.4%)	41.6%	(36.8%, 46.5%)
York County	51199	47.9%	(33.0%, 63.3%)	42.1%	(38.1%, 46.2%)
Chesapeake City	51550	48.9%	(40.4%, 57.6%)	47.5%	(44.9%, 50.1%)
Franklin City	51620	37.0%	(5.4%, 85.7%)	46.5%	(40.0%, 53.2%)
Hampton City	51650	60.4%	(50.4%, 69.5%)	52.9%	(47.5%, 58.3%)
Newport News City	51700	56.7%	(46.5%, 66.2%)	52.7%	(49.3%, 56.1%)
Norfolk City	51710	56.3%	(47.5%, 64.6%)	53.8%	(50.4%, 57.2%)
Poquoson City	51735	34.2%	(9.5%, 72.1%)	34.0%	(30.1%, 38.1%)
Portsmouth City	51740	43.5%	(31.9%, 55.8%)	53.6%	(49.3%, 57.8%)
Suffolk City	51800	54.3%	(40.2%, 67.8%)	50.7%	(47.0%, 54.3%)
Virginia Beach City	51810	49.1%	(41.8%, 56.4%)	46.9%	(44.6%, 49.3%)
Williamsburg City	51830	30.0%	(7.6%, 69.1%)	27.4%	(22.0%, 33.6%)

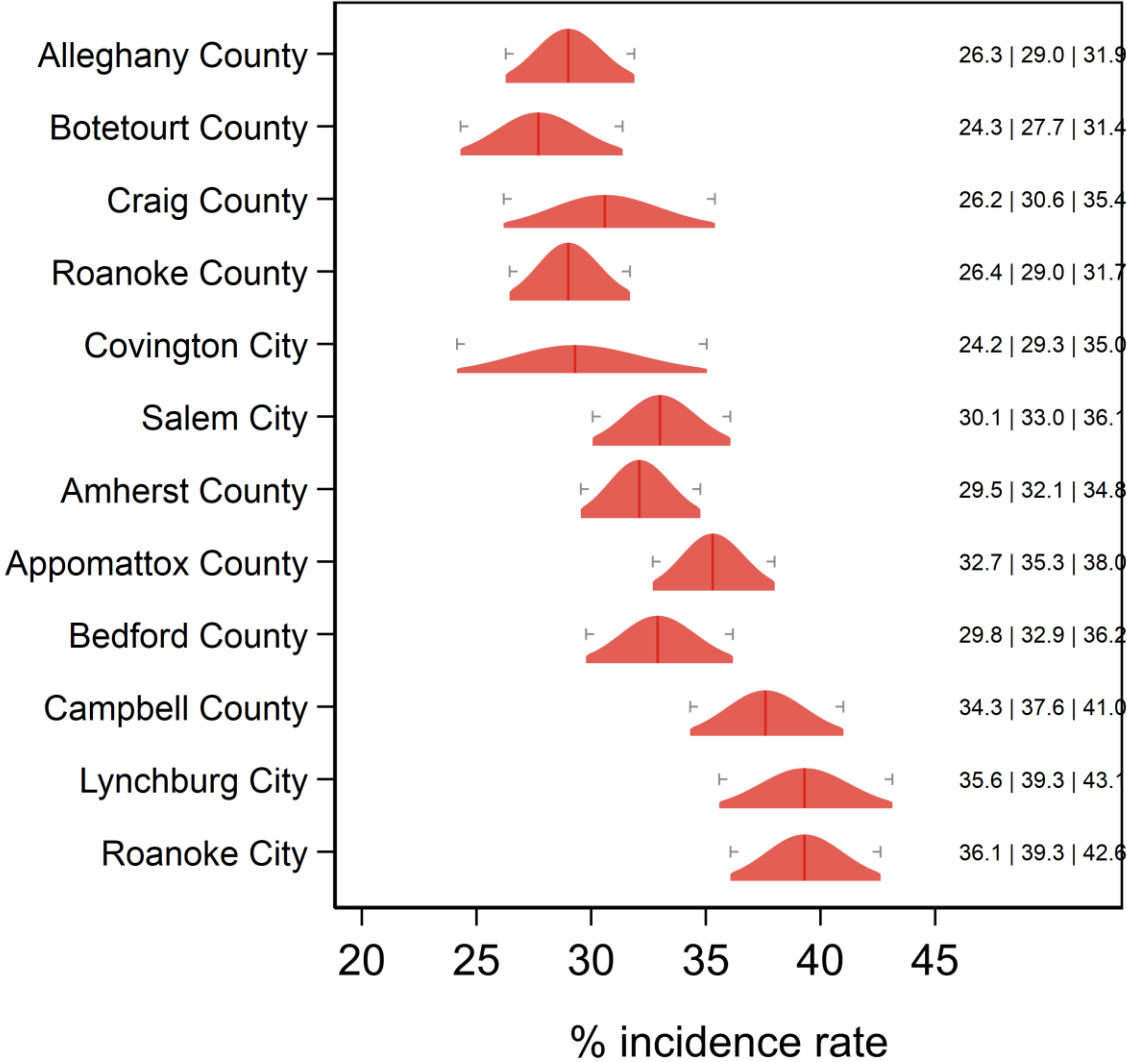
Ever Tested for HIV Central Shenandoah and Lord Fairfax HDs



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

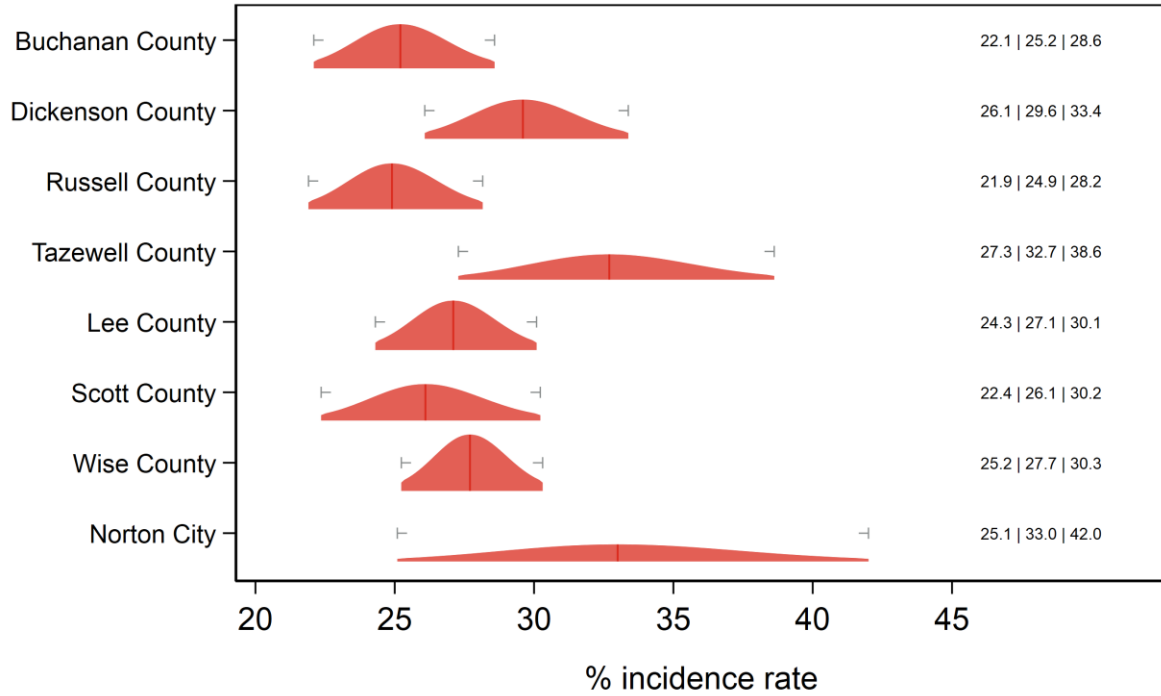
Ever Tested for HIV

Alleghany, Roanoke and Central Virginia HDs



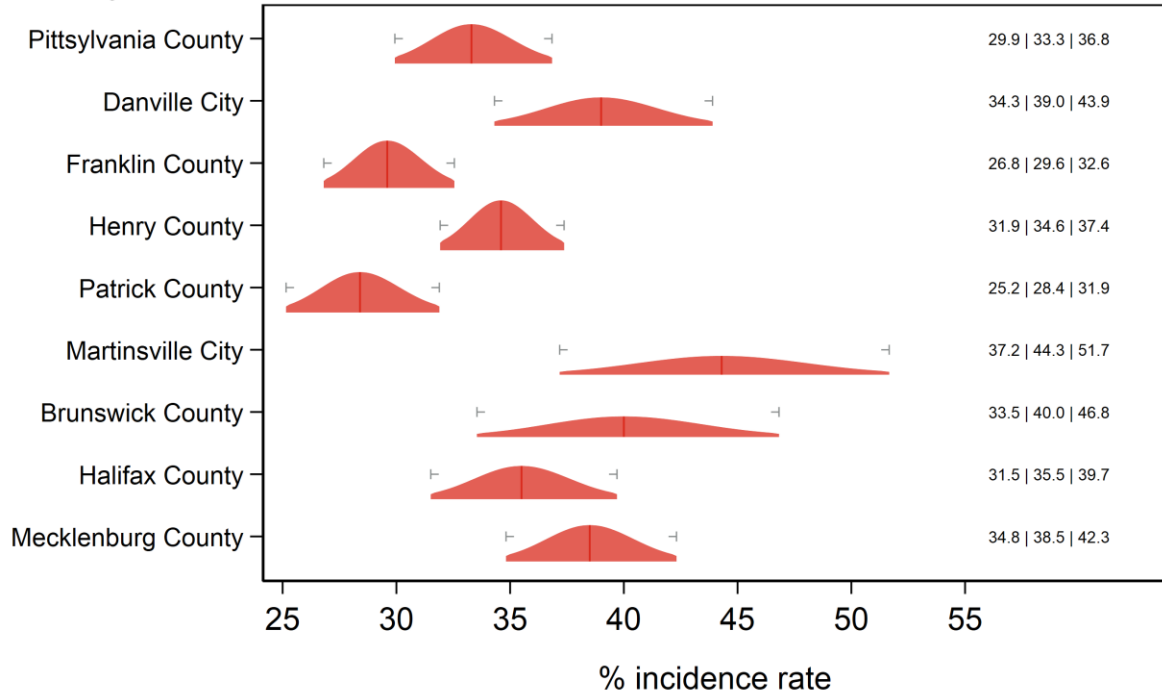
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Ever Tested for HIV Cumberland Plateau and Lenowisco HDs



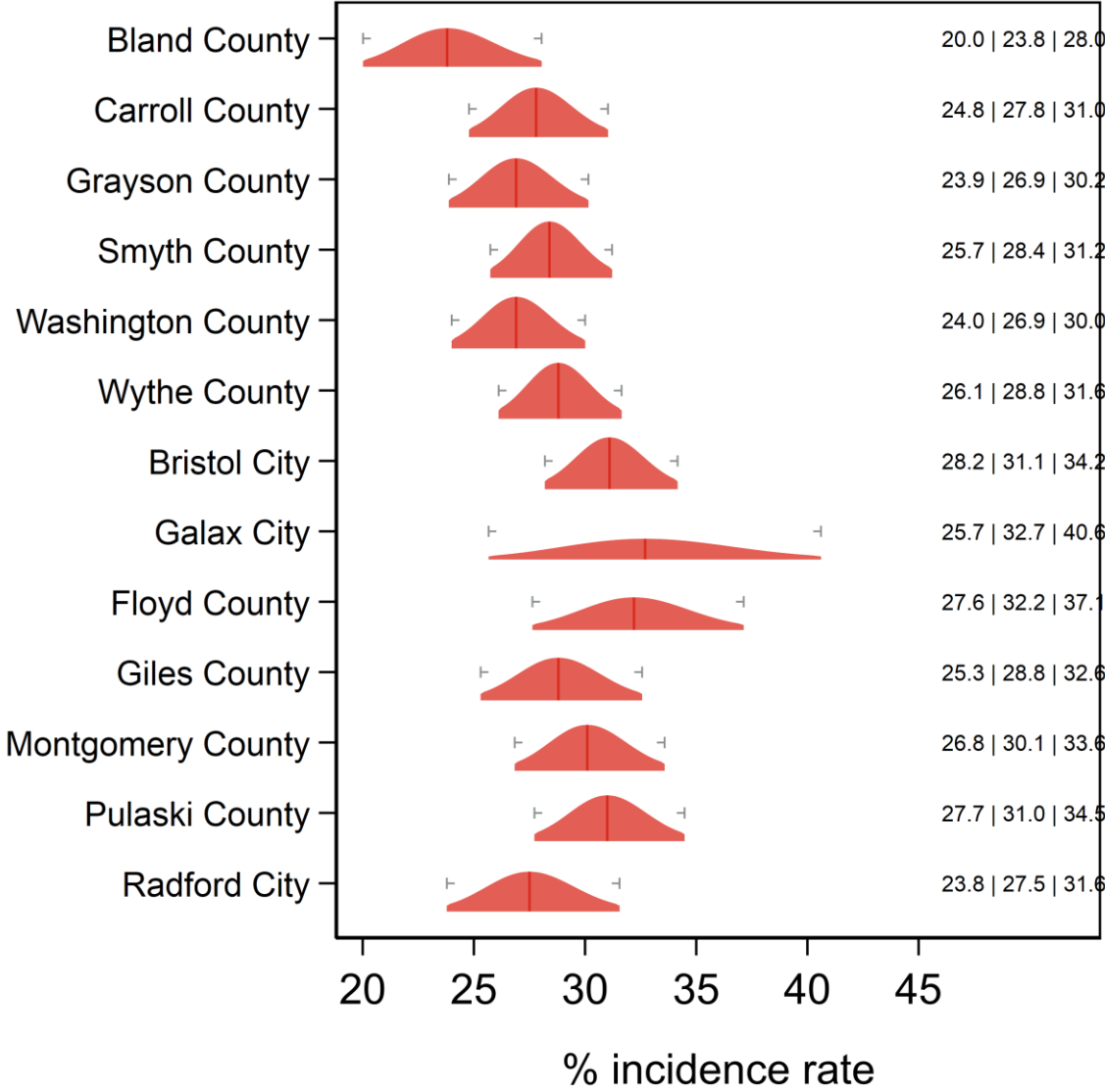
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Ever Tested for HIV Pittsylvania/Danville, Southside and West Piedmont HDs



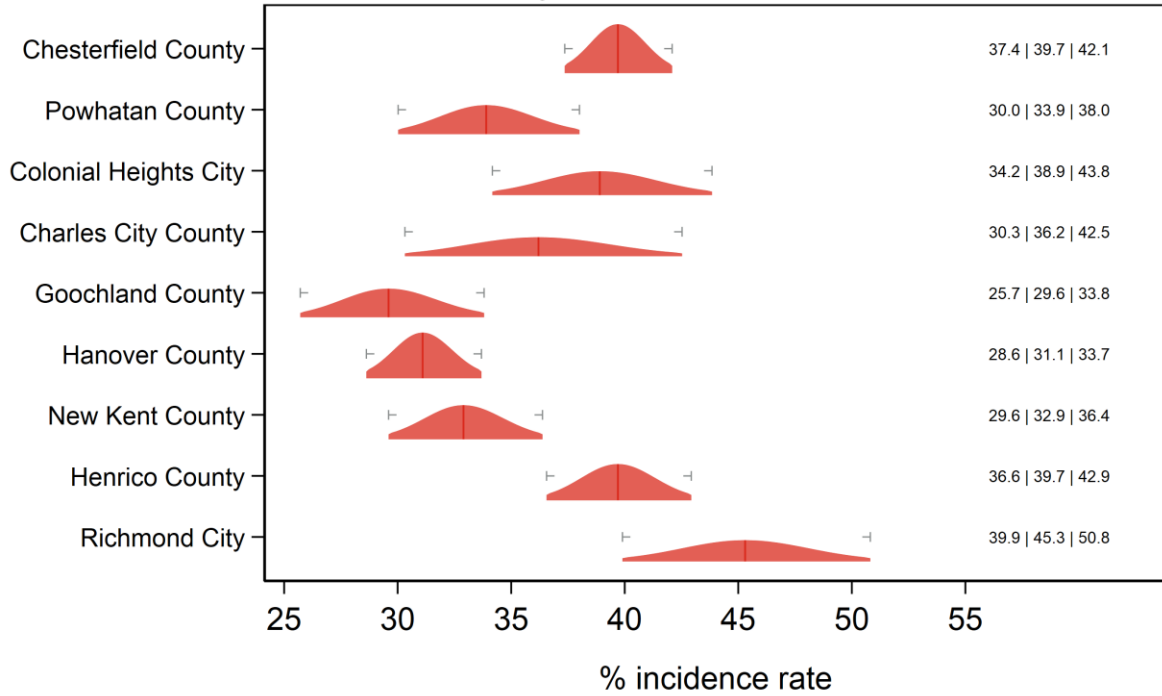
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Ever Tested for HIV New River and Mount Rogers HDs



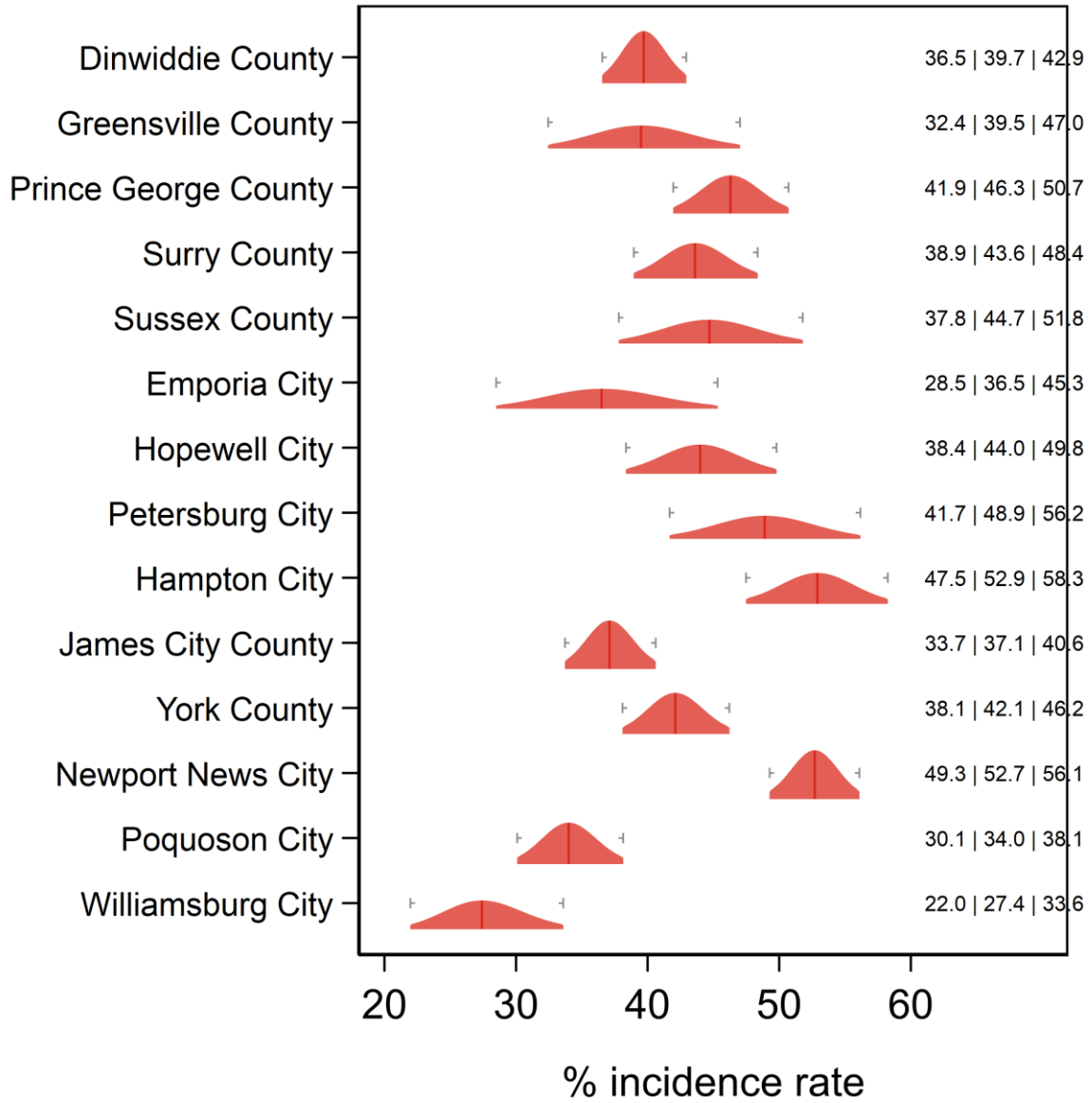
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Ever Tested for HIV Chesterfield, Chickahominy, Henrico and Richmond HDs



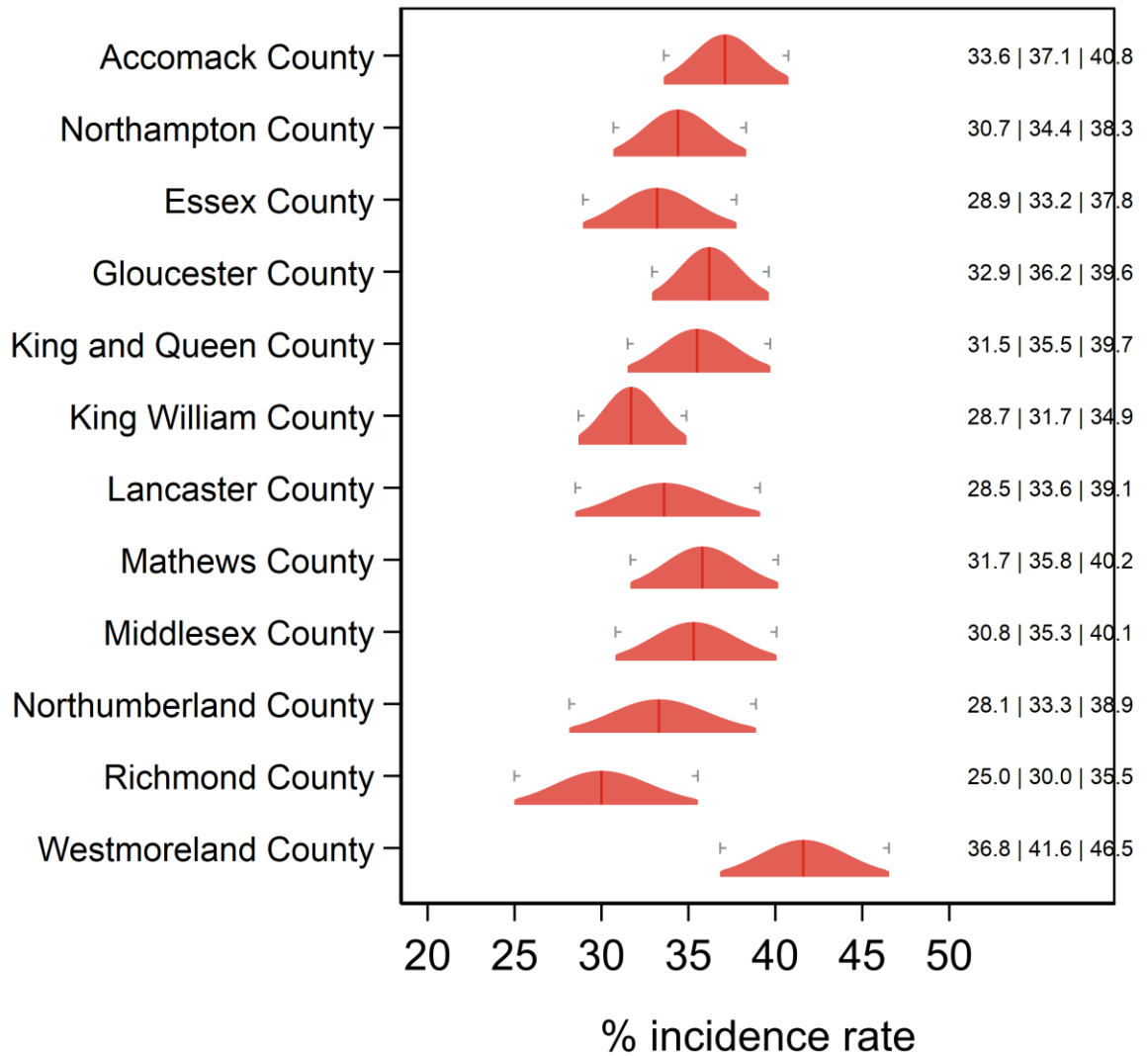
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Ever Tested for HIV Crater, Peninsula and Hampton HDs



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

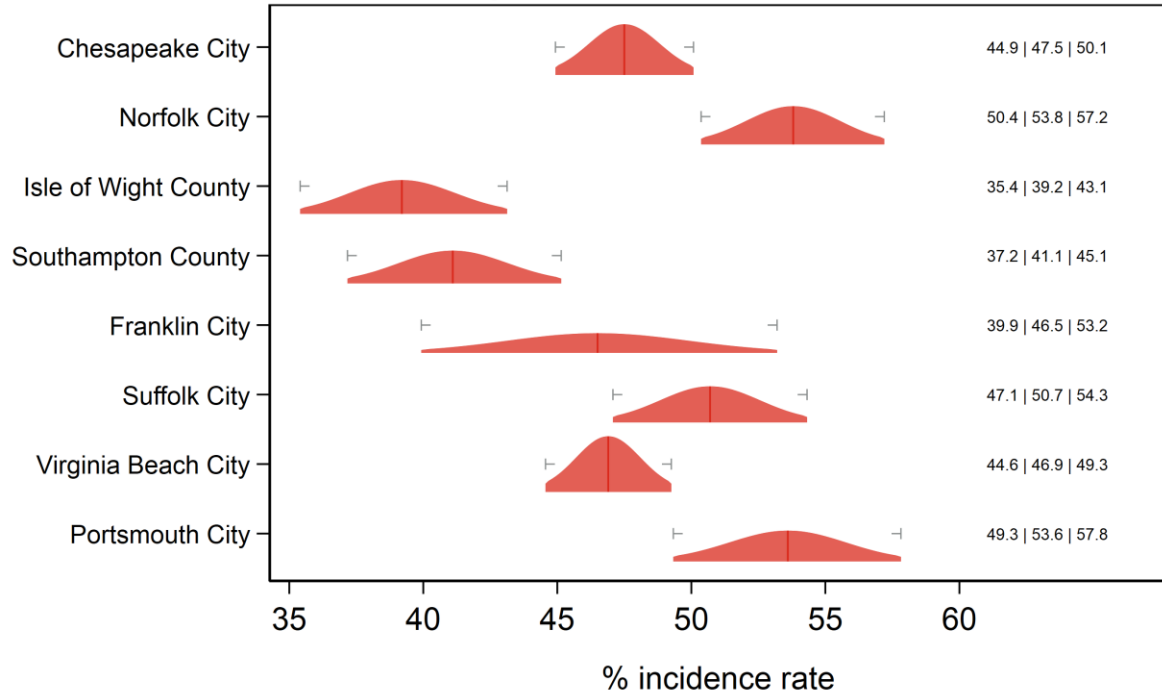
Ever Tested for HIV Eastern Shore and Three Rivers HDs



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

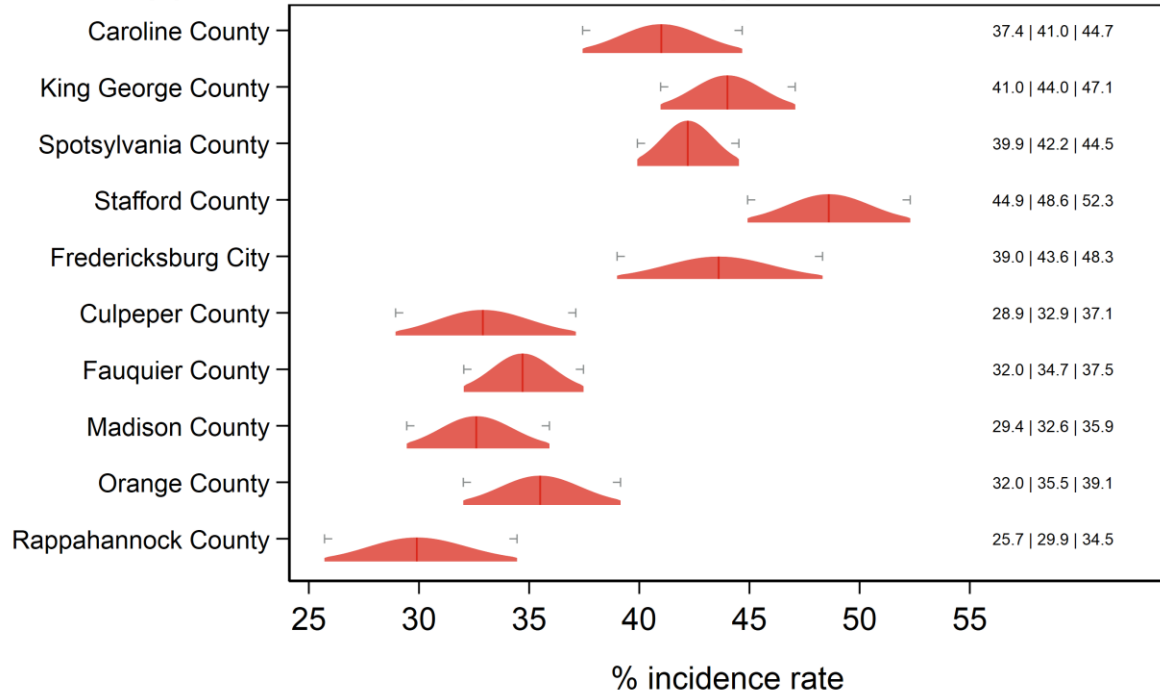
Ever Tested for HIV

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

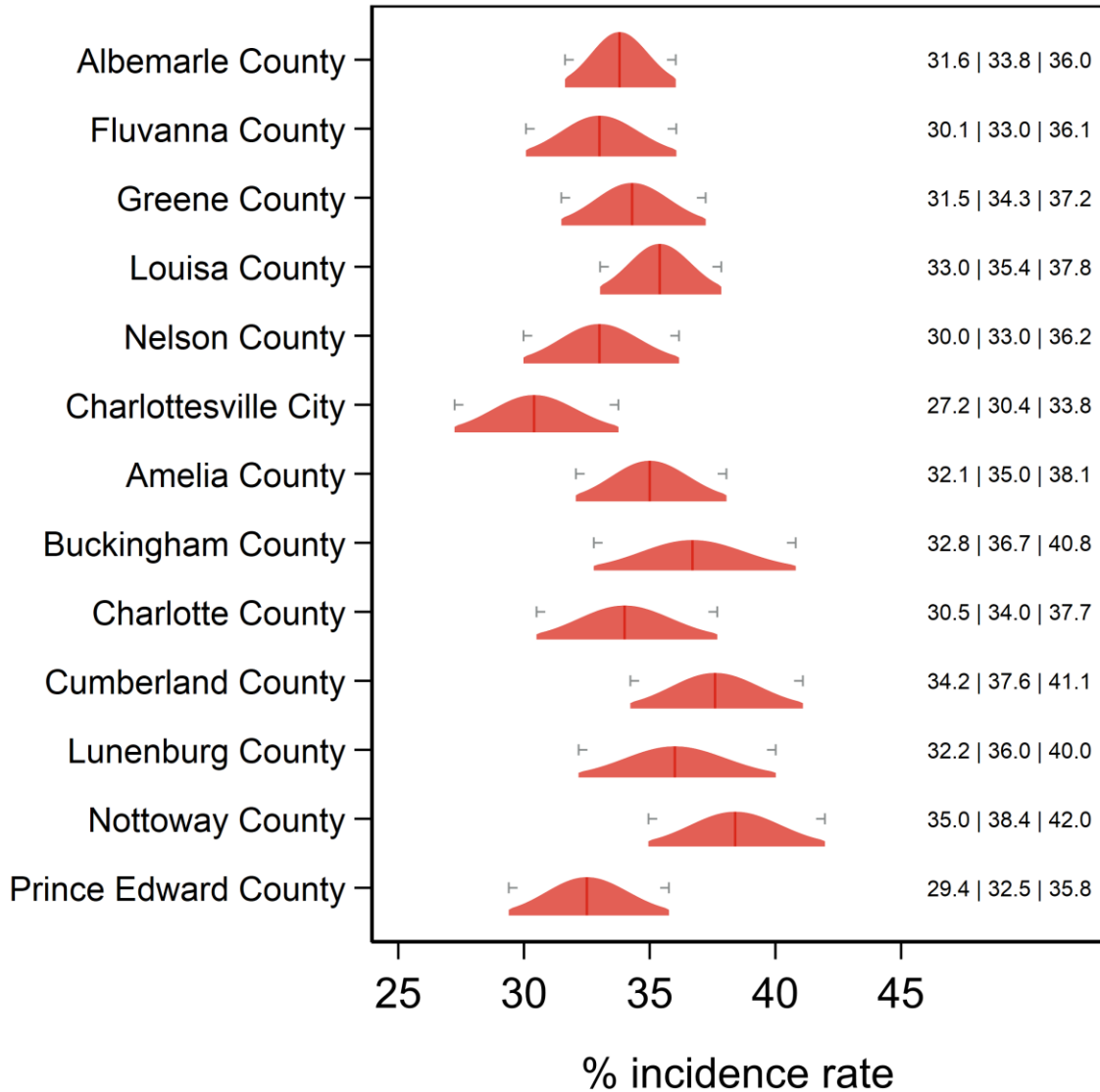
Ever Tested for HIV Rappahannock/Rapidan and Rappahannock HDs



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

Ever Tested for HIV

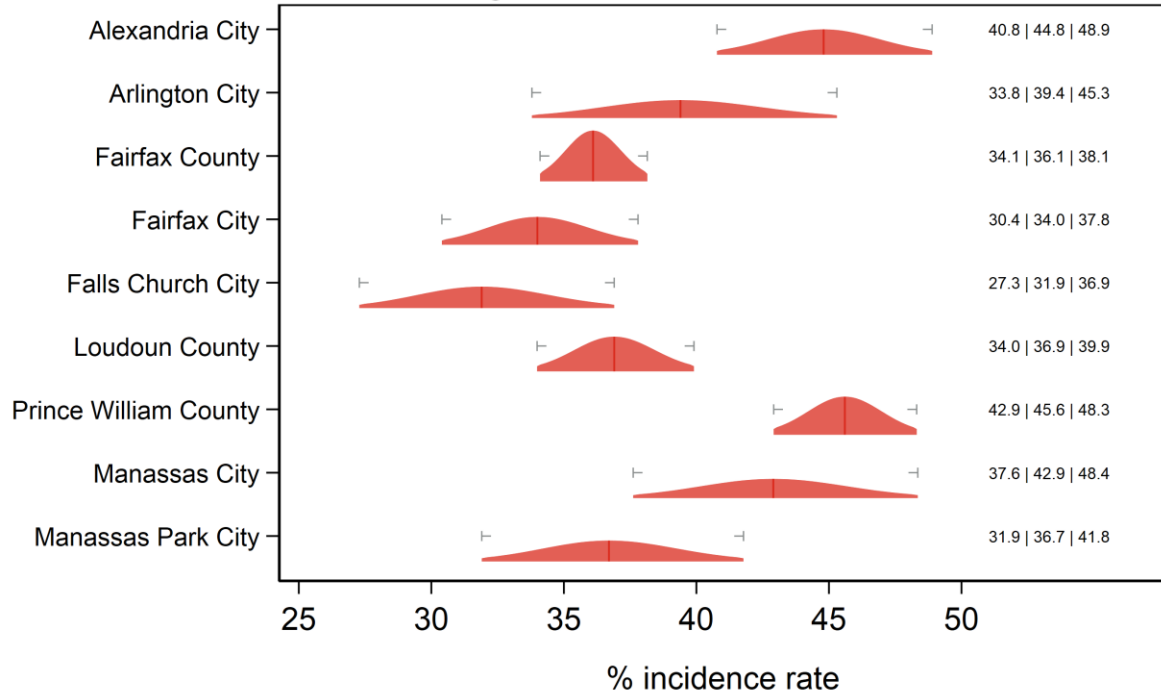
Thomas Jefferson and Piedmont HDs



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

Ever Tested for HIV

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

Additional diagnostics

Direct estimate is inside the 95% SAE Wilson CI: 35 areas.

Direct estimate is outside the 95% SAE Wilson CI: 98 areas.

SAE estimate is inside the 95% direct Wilson CI: 124 areas.

SAE estimate is outside the 95% direct Wilson CI: 9 areas.

SAE Wilson 95% CI is fully inside the 95% direct Wilson CI: 111 areas.

SAE Wilson 95% CI partially overlaps with the 95% direct Wilson CI: 22 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: 129 areas.

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

Direct standard error is zero: 4 areas.

Proportion of SAE variance due to ACS sampling error: min = 1.73%; med = 12.35%; max = 51.86%.

Proportion of SAE variance due to sampling error in regression coefficient estimates: min = 47.49%; med = 82.01%; max = 95.42%.

Proportion of SAE variance due to model selection: min = 0.03%; med = 2.64%; max = 33.16%.

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