Outcome 36: Influenza Vaccination in the Past Year - All Ages

Internal variable name: outc36_flu_vacc

Definition: During the past 12 months, have you had either a flu shot or a flu vaccine that was sprayed in your nose?

Predictive models

	Mixed, demos only	Logit, no area effects	Mixed with area covariates
	b/se	b/se	b/se
Outcome 36: Influenza Vaccination in the Past Year - All Ages			
NH Black vs. NH White	-0.2693*** (0.0755)	-0.2805** (0.0884)	-0.2805*** (0.0752)
NH Asian vs. NH White	0.4584* (0.2231)	0.3846* (0.1874)	0.3846 (0.2145)
NH Other vs. NH White	-0.0847 (0.1885)	-0.0967 (0.1492)	-0.0967 (0.1939)
Hispanic vs. NH White	-0.0864 (0.1668)	-0.1291 (0.1499)	-0.1291 (0.1678)
Female	0.2894*** (0.0537)	0.2851*** (0.0641)	0.2851*** (0.0537)
Age 18-34 vs. 65+	-1.1539*** (0.0997)	-1.1800*** (0.0911)	-1.1800*** (0.0978)
Age 35-44 vs. 65+	-1.1173*** (0.1225)	-1.1435*** (0.1006)	-1.1435*** (0.1225)
Age 45-54 vs. 65+	-1.0032*** (0.0679)	-1.0296*** (0.0884)	-1.0296*** (0.0702)
Age 55-64 vs. 65+	-0.6268*** (0.0792)	-0.6439*** (0.0803)	-0.6439*** (0.0813)
% education below HS, population 25+ y/o		-0.1829* (0.0902)	-0.1829* (0.0735)
VA BRFSS 2014 SAE outc14_diabetes_test		-2.0453 (2.1898)	-2.0451 (1.8585)
% speaking English less than very well		0.0338** (0.0120)	0.0338** (0.0101)
Length of life z-score, County Rankings		0.6370*** (0.1431)	0.6370*** (0.1122)
Asthma hospitalization rate per 1K		-0.2367** (0.0764)	-0.2367*** (0.0635)
Kidney Female Rate		0.0092 (0.0051)	0.0092* (0.0040)
o.% education below HS, population 25+ y/o		0.0000	

o.VA BRFSS 2014 SAE outc14_diabetes_test		(.) 0.0000 (.)	
c.ACS_pct_educ_lt_HS#c.VA14SAE_outc14_diabetes_test		0.2230 (0.1477)	0.2230 (0.1222)
Intercept	0.4336*** (0.0581)	2.4322 (1.3488)	2.4321* (1.1103)
Area effect variance			
	0.0207 (0.0189)		0.0000 (0.0000)

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	32.2%	(23.3%, 42.7%)	46.2%	(42.7%, 49.7%)
Bath County	51017	37.6%	(12.1%, 72.6%)	51.3%	(45.7%, 56.8%)
Caroline County	51033	34.8%	(13.9%, 64.0%)	50.3%	(46.3%, 54.3%)
Clarke County	51043	35.3%	(15.3%, 62.2%)	40.1%	(35.9%, 44.5%)
Culpeper County	51047	52.3%	(35.1%, 69.0%)	53.3%	(48.3%, 58.3%)
Fauquier County	51061	49.8%	(33.3%, 66.3%)	48.9%	(45.3%, 52.6%)
Frederick County	51069	43.2%	(29.8%, 57.7%)	47.9%	(45.1%, 50.7%)
Highland County	51091	31.4%	(6.1%, 76.4%)	52.1%	(45.0%, 59.2%)
King George County	51099	16.2%	(4.6%, 43.6%)	47.1%	(42.1%, 52.2%)
Madison County	51113	42.3%	(19.2%, 69.2%)	48.4%	(45.6%, 51.2%)
Orange County	51137	35.3%	(19.6%, 55.0%)	54.4%	(51.3%, 57.4%)
Page County	51139	44.3%	(23.4%, 67.4%)	34.7%	(30.5%, 39.2%)
Rappahannock County	51157	49.3%	(22.4%, 76.6%)	38.0%	(33.7%, 42.4%)
Rockbridge County	51163	48.0%	(29.3%, 67.1%)	51.1%	(46.8%, 55.5%)
Rockingham County	51165	34.7%	(24.2%, 47.0%)	39.5%	(35.9%, 43.1%)
Shenandoah County	51171	43.2%	(27.2%, 60.8%)	47.7%	(45.3%, 50.1%)
Spotsylvania County	51177	38.8%	(27.2%, 51.7%)	47.2%	(44.6%, 49.8%)
Stafford County	51179	44.5%	(34.2%, 55.3%)	46.9%	(43.2%, 50.6%)
Warren County	51187	36.6%	(21.2%, 55.3%)	43.1%	(39.8%, 46.4%)
Buena Vista City	51530	52.0%	(15.4%, 86.6%)	43.6%	(38.7%, 48.5%)
Fredericksburg City	51630	54.6%	(30.2%, 76.9%)	52.3%	(44.3%, 60.3%)
Harrisonburg City	51660	72.3%	(31.8%, 93.6%)	45.4%	(40.6%, 50.3%)
Lexington City	51678	79.9%	(2.7%, 99.5%)	48.3%	(41.3%, 55.3%)
Staunton City	51790	49.7%	(16.9%, 82.8%)	57.0%	(53.8%, 60.1%)
Waynesboro City	51820	44.5%	(15.0%, 78.4%)	61.2%	(56.6%, 65.7%)
Winchester City	51840	11.6%	(3.1%, 70.4%)	45.0%	(39.8%, 50.2%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Albemarle County	51003	52.9%	(41.4%, 64.2%)	44.8%	(41.5%, 48.1%)
Alleghany County	51005	43.7%	(20.6%, 69.8%)	50.6%	(47.6%, 53.5%)
Amherst County	51009	53.7%	(30.4%, 75.4%)	45.2%	(42.8%, 47.6%)
Appomattox County	51011	42.0%	(22.2%, 64.8%)	45.5%	(41.8%, 49.2%)
Arlington City	51013	46.7%	(37.0%, 56.7%)	47.3%	(44.2%, 50.5%)
Bedford County	51019	53.6%	(42.2%, 64.6%)	51.7%	(48.6%, 54.7%)
Botetourt County	51023	58.7%	(36.4%, 77.9%)	54.6%	(50.6%, 58.6%)
Campbell County	51031	51.7%	(37.6%, 65.6%)	42.5%	(39.3%, 45.8%)
Craig County	51045	64.5%	(18.6%, 93.5%)	60.4%	(56.3%, 64.3%)
Fairfax County	51059	48.0%	(43.8%, 52.4%)	51.4%	(49.3%, 53.6%)
Fluvanna County	51065	54.6%	(33.6%, 74.2%)	50.3%	(46.9%, 53.7%)
Greene County	51079	67.6%	(35.6%, 88.7%)	42.8%	(39.2%, 46.5%)
Loudoun County	51107	43.2%	(35.2%, 51.7%)	50.9%	(48.1%, 53.7%)
Louisa County	51109	38.0%	(22.3%, 56.8%)	44.5%	(41.4%, 47.7%)
Nelson County	51125	61.1%	(29.3%, 85.6%)	52.9%	(49.0%, 56.7%)
Prince William County	51153	41.1%	(34.5%, 48.0%)	46.2%	(44.0%, 48.4%)
Roanoke County	51161	40.3%	(30.2%, 51.3%)	51.4%	(47.6%, 55.2%)
Alexandria City	51510	51.0%	(39.9%, 62.0%)	44.7%	(41.5%, 47.9%)
Charlottesville City	51540	63.5%	(39.5%, 82.2%)	53.1%	(49.8%, 56.4%)
Covington City	51580	100.0%	(3.6%, 100.0%)	69.8%	(57.7%, 79.7%)
Fairfax City	51600	60.8%	(46.8%, 73.3%)	62.8%	(58.7%, 66.7%)
Falls Church City	51610	47.4%	(22.3%, 73.8%)	59.8%	(55.8%, 63.7%)
Lynchburg City	51680	42.4%	(29.6%, 56.3%)	46.0%	(41.6%, 50.5%)
Manassas City	51683	47.2%	(17.3%, 79.1%)	44.1%	(35.7%, 52.9%)
Manassas Park City	51685	16.3%	(2.6%, 81.6%)	42.9%	(34.4%, 51.8%)
Salem City	51775	24.2%	(8.8%, 51.4%)	51.2%	(45.8%, 56.5%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Bland County	51021	46.5%	(21.2%, 73.7%)	60.0%	(54.7%, 65.1%)
Buchanan County	51027	16.4%	(8.5%, 36.6%)	34.8%	(27.7%, 42.8%)
Carroll County	51035	59.6%	(36.9%, 78.8%)	48.9%	(44.8%, 52.9%)
Dickenson County	51051	42.6%	(20.8%, 67.7%)	54.4%	(48.1%, 60.4%)
Floyd County	51063	31.5%	(16.5%, 51.8%)	39.6%	(35.4%, 44.0%)
Franklin County	51067	33.7%	(19.0%, 52.4%)	45.9%	(42.8%, 49.1%)
Giles County	51071	40.8%	(24.9%, 58.9%)	45.7%	(42.9%, 48.6%)
Grayson County	51077	30.5%	(14.8%, 52.6%)	39.2%	(33.4%, 45.4%)
Henry County	51089	45.9%	(30.5%, 62.1%)	49.9%	(46.0%, 53.8%)
Lee County	51105	40.2%	(16.0%, 70.4%)	46.9%	(42.0%, 51.9%)
Montgomery County	51121	35.1%	(24.2%, 47.7%)	48.8%	(44.4%, 53.2%)
Patrick County	51141	81.8%	(58.8%, 93.4%)	54.9%	(48.8%, 60.8%)
Pittsylvania County	51143	36.2%	(26.7%, 46.9%)	45.4%	(42.6%, 48.3%)
Pulaski County	51155	60.7%	(38.7%, 79.0%)	47.7%	(44.8%, 50.7%)
Russell County	51167	25.0%	(11.4%, 46.4%)	37.8%	(33.6%, 42.1%)
Scott County	51169	53.4%	(32.0%, 73.6%)	45.2%	(39.8%, 50.7%)
Smyth County	51173	60.9%	(35.2%, 81.6%)	47.3%	(43.0%, 51.6%)
Tazewell County	51185	39.0%	(23.3%, 57.4%)	44.5%	(41.5%, 47.5%)
Washington County	51191	29.7%	(19.9%, 41.9%)	46.1%	(43.2%, 48.9%)
Wise County	51195	44.2%	(29.6%, 59.8%)	52.8%	(47.3%, 58.1%)
Wythe County	51197	38.0%	(21.5%, 57.9%)	48.9%	(44.9%, 52.9%)
Bristol City	51520	66.2%	(12.5%, 96.4%)	67.5%	(58.3%, 75.6%)
Danville City	51590	47.5%	(24.3%, 71.9%)	51.2%	(47.9%, 54.5%)
Galax City	51640	100.0%	(21.7%, 100.0%)	52.2%	(40.9%, 63.2%)
Martinsville City	51690	49.9%	(13.1%, 86.8%)	53.2%	(46.3%, 60.0%)
Norton City	51720	17.1%	(4.3%, 69.7%)	33.3%	(27.8%, 39.2%)
Radford City	51750	24.8%	(7.6%, 57.1%)	42.0%	(36.3%, 48.0%)
Roanoke City	51770	40.6%	(28.6%, 53.8%)	46.8%	(43.6%, 50.0%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Amelia County	51007	25.4%	(11.4%, 47.2%)	41.3%	(37.0%, 45.8%)
Brunswick County	51025	25.7%	(9.7%, 52.8%)	34.8%	(30.1%, 39.7%)
Buckingham County	51029	31.2%	(16.5%, 51.0%)	34.2%	(30.3%, 38.3%)
Charles City County	51036	46.4%	(10.0%, 87.0%)	42.0%	(37.1%, 47.1%)
Charlotte County	51037	25.3%	(12.7%, 44.1%)	39.7%	(36.0%, 43.5%)
Chesterfield County	51041	49.1%	(40.9%, 57.3%)	50.7%	(48.2%, 53.2%)
Cumberland County	51049	44.1%	(22.9%, 67.7%)	42.7%	(39.3%, 46.1%)
Dinwiddie County	51053	35.3%	(17.0%, 59.2%)	42.5%	(39.7%, 45.3%)
Goochland County	51075	39.6%	(18.9%, 64.9%)	51.0%	(47.5%, 54.4%)
Greensville County	51081	41.7%	(14.1%, 75.8%)	36.7%	(33.0%, 40.5%)
Halifax County	51083	43.6%	(28.3%, 60.3%)	46.2%	(42.0%, 50.5%)
Hanover County	51085	44.9%	(33.0%, 57.4%)	55.4%	(51.0%, 59.6%)
Henrico County	51087	41.6%	(33.1%, 50.7%)	50.0%	(47.4%, 52.6%)
Lunenburg County	51111	25.9%	(10.8%, 50.3%)	29.3%	(25.5%, 33.4%)
Mecklenburg County	51117	44.1%	(30.5%, 58.7%)	41.9%	(36.6%, 47.4%)
New Kent County	51127	21.0%	(8.2%, 44.0%)	52.5%	(48.0%, 57.0%)
Nottoway County	51135	31.7%	(13.7%, 57.5%)	35.4%	(31.4%, 39.6%)
Powhatan County	51145	47.9%	(25.1%, 71.6%)	47.0%	(41.5%, 52.6%)
Prince Edward County	51147	52.9%	(32.9%, 72.1%)	51.4%	(48.3%, 54.6%)
Prince George County	51149	50.2%	(31.9%, 68.4%)	41.0%	(36.5%, 45.7%)
Surry County	51181	44.7%	(17.5%, 75.5%)	41.9%	(38.0%, 45.9%)
Sussex County	51183	32.0%	(16.7%, 52.3%)	33.5%	(28.7%, 38.7%)
Colonial Heights City	51570	52.9%	(30.2%, 74.5%)	54.0%	(48.5%, 59.5%)
Emporia City	51595	0.0%	(0.0%, 91.8%)	28.1%	(20.9%, 36.7%)
Hopewell City	51670	49.4%	(25.7%, 73.4%)	44.2%	(39.4%, 49.0%)
Petersburg City	51730	41.7%	(24.3%, 61.3%)	46.9%	(40.6%, 53.4%)
Richmond City	51760	31.5%	(22.8%, 41.7%)	35.1%	(31.3%, 39.2%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Accomack County	51001	35.5%	(23.1%, 50.4%)	53.1%	(48.8%, 57.4%)
Essex County	51057	54.0%	(27.6%, 78.4%)	43.3%	(38.2%, 48.6%)
Gloucester County	51073	47.6%	(32.4%, 63.3%)	53.2%	(49.4%, 56.9%)
Isle of Wight County	51093	37.5%	(20.5%, 58.2%)	47.1%	(43.1%, 51.1%)
James City County	51095	51.2%	(37.8%, 64.3%)	50.8%	(46.5%, 55.1%)
King and Queen County	51097	28.7%	(7.6%, 66.4%)	37.1%	(32.9%, 41.5%)
King William County	51101	67.2%	(35.2%, 88.5%)	51.6%	(48.7%, 54.5%)
Lancaster County	51103	56.5%	(24.6%, 83.8%)	62.6%	(58.2%, 66.7%)
Mathews County	51115	55.4%	(28.6%, 79.4%)	59.2%	(54.0%, 64.1%)
Middlesex County	51119	55.3%	(32.0%, 76.5%)	60.3%	(55.5%, 64.9%)
Northampton County	51131	50.8%	(29.6%, 71.7%)	55.7%	(49.2%, 62.0%)
Northumberland County	51133	58.7%	(33.9%, 79.8%)	54.0%	(49.4%, 58.5%)
Richmond County	51159	41.9%	(19.2%, 68.6%)	56.1%	(51.5%, 60.5%)
Southampton County	51175	41.3%	(16.5%, 71.5%)	39.3%	(34.9%, 44.0%)
Westmoreland County	51193	28.5%	(11.2%, 55.6%)	48.5%	(44.6%, 52.4%)
York County	51199	47.2%	(32.3%, 62.5%)	51.5%	(47.4%, 55.5%)
Chesapeake City	51550	55.8%	(45.9%, 65.2%)	47.8%	(44.7%, 50.9%)
Franklin City	51620	51.5%	(26.3%, 75.9%)	55.5%	(47.5%, 63.1%)
Hampton City	51650	47.8%	(37.7%, 58.1%)	52.4%	(49.1%, 55.7%)
Newport News City	51700	44.5%	(34.3%, 55.3%)	50.0%	(47.5%, 52.6%)
Norfolk City	51710	44.5%	(35.8%, 53.6%)	45.4%	(42.9%, 47.8%)
Poquoson City	51735	52.5%	(11.4%, 90.5%)	52.0%	(46.1%, 57.9%)
Portsmouth City	51740	44.5%	(33.3%, 56.3%)	49.1%	(46.1%, 52.1%)
Suffolk City	51800	30.4%	(20.4%, 42.6%)	46.5%	(43.7%, 49.4%)
Virginia Beach City	51810	48.1%	(41.2%, 55.0%)	53.0%	(50.0%, 55.9%)
Williamsburg City	51830	70.2%	(26.5%, 93.9%)	58.2%	(51.2%, 64.9%)

Graphical representation

Flu vaccination past yr
Central Shenandoah and Lord Fairfax HDs

County/City	LCB | Point Estimate | UCB
Augusta County	42.7 | 46.2 | 49.8
Bath County	45.8 | 51.3 | 56.8
Highland County	44.9 | 52.1 | 59.2
Rockbridge County	46.7 | 51.1 | 55.5
Rockingham County	35.9 | 39.5 | 43.2
Buena Vista City	38.8 | 43.6 | 48.6
Harrisonburg City	40.6 | 45.4 | 50.3
Lexington City	41.3 | 48.3 | 55.4
Staunton City	53.8 | 57.0 | 60.2
Waynesboro City	56.5 | 61.2 | 65.7
Clarke County	35.9 | 40.1 | 44.5
Frederick County	45.1 | 47.9 | 50.7
Page County	30.5 | 34.7 | 39.2
Shenandoah County	45.3 | 47.7 | 50.1
Warren County	39.8 | 43.1 | 46.5
Winchester City	39.8 | 45.0 | 50.3

% incidence rate

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

Flu vaccination past yr
Rappahannock/Rapidan and Rappahannock HDs
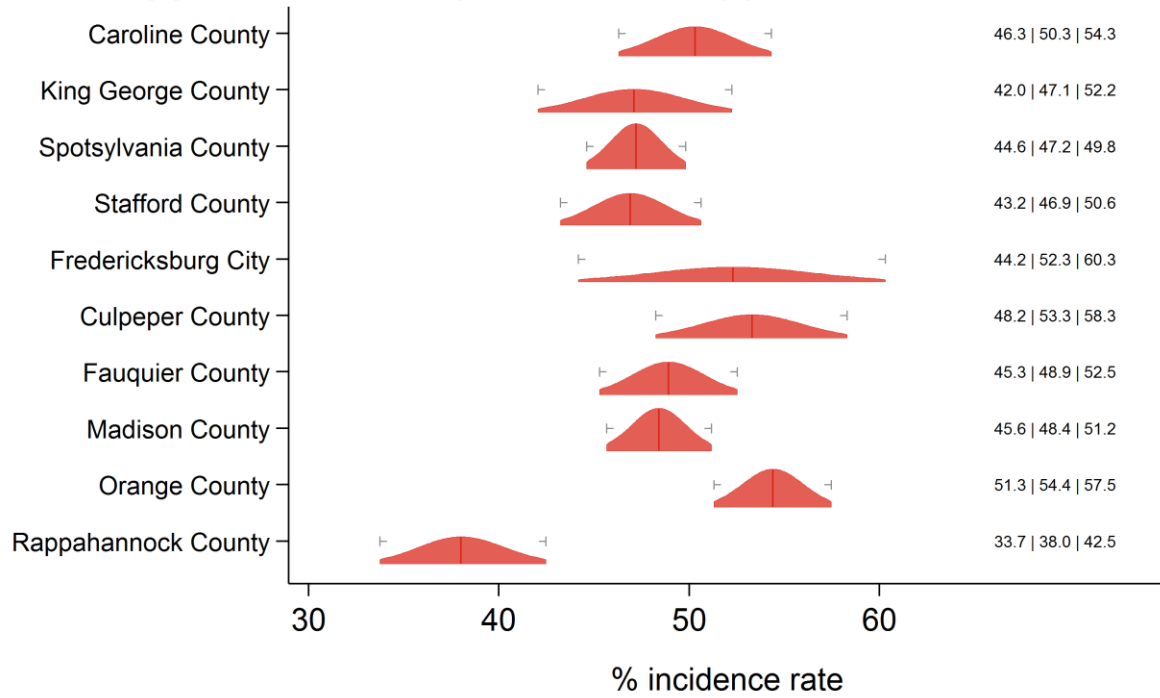
County	LCB | Point | UCB
Caroline County	46.3 | 50.3 | 54.3
King George County	42.0 | 47.1 | 52.2
Spotsylvania County	44.6 | 47.2 | 49.8
Stafford County	43.2 | 46.9 | 50.6
Fredericksburg City	44.2 | 52.3 | 60.3
Culpeper County	48.2 | 53.3 | 58.3
Fauquier County	45.3 | 48.9 | 52.5
Madison County	45.6 | 48.4 | 51.2
Orange County	51.3 | 54.4 | 57.5
Rappahannock County	33.7 | 38.0 | 42.5

% incidence rate

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

Flu vaccination past yr
Thomas Jefferson and Piedmont HDs

County	LCB | Point Estimate | UCB
Albemarle County	41.5 | 44.8 | 48.1
Fluvanna County	46.9 | 50.3 | 53.7
Greene County	39.2 | 42.8 | 46.5
Louisa County	41.4 | 44.5 | 47.7
Nelson County	49.0 | 52.9 | 56.8
Charlottesville City	49.8 | 53.1 | 56.4
Amelia County	37.0 | 41.3 | 45.7
Buckingham County	30.3 | 34.2 | 38.4
Charlotte County	36.0 | 39.7 | 43.5
Cumberland County	39.3 | 42.7 | 46.1
Lunenburg County	25.5 | 29.3 | 33.4
Nottoway County	31.4 | 35.4 | 39.6
Prince Edward County	48.2 | 51.4 | 54.6

% incidence rate

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

Flu vaccination past yr
Alexandria, Fairfax, Arlington, Loudon, Prince William HDs

	2-sided 95% LCB	Point Estimate	2-sided 95% UCB
Alexandria City	41.5	44.7	47.9
Arlington City	44.2	47.3	50.5
Fairfax County	49.3	51.4	53.5
Fairfax City	58.7	62.8	66.7
Falls Church City	55.8	59.8	63.7
Loudoun County	48.1	50.9	53.7
Prince William County	44.0	46.2	48.4
Manassas City	35.6	44.1	52.9
Manassas Park City	34.4	42.9	51.9

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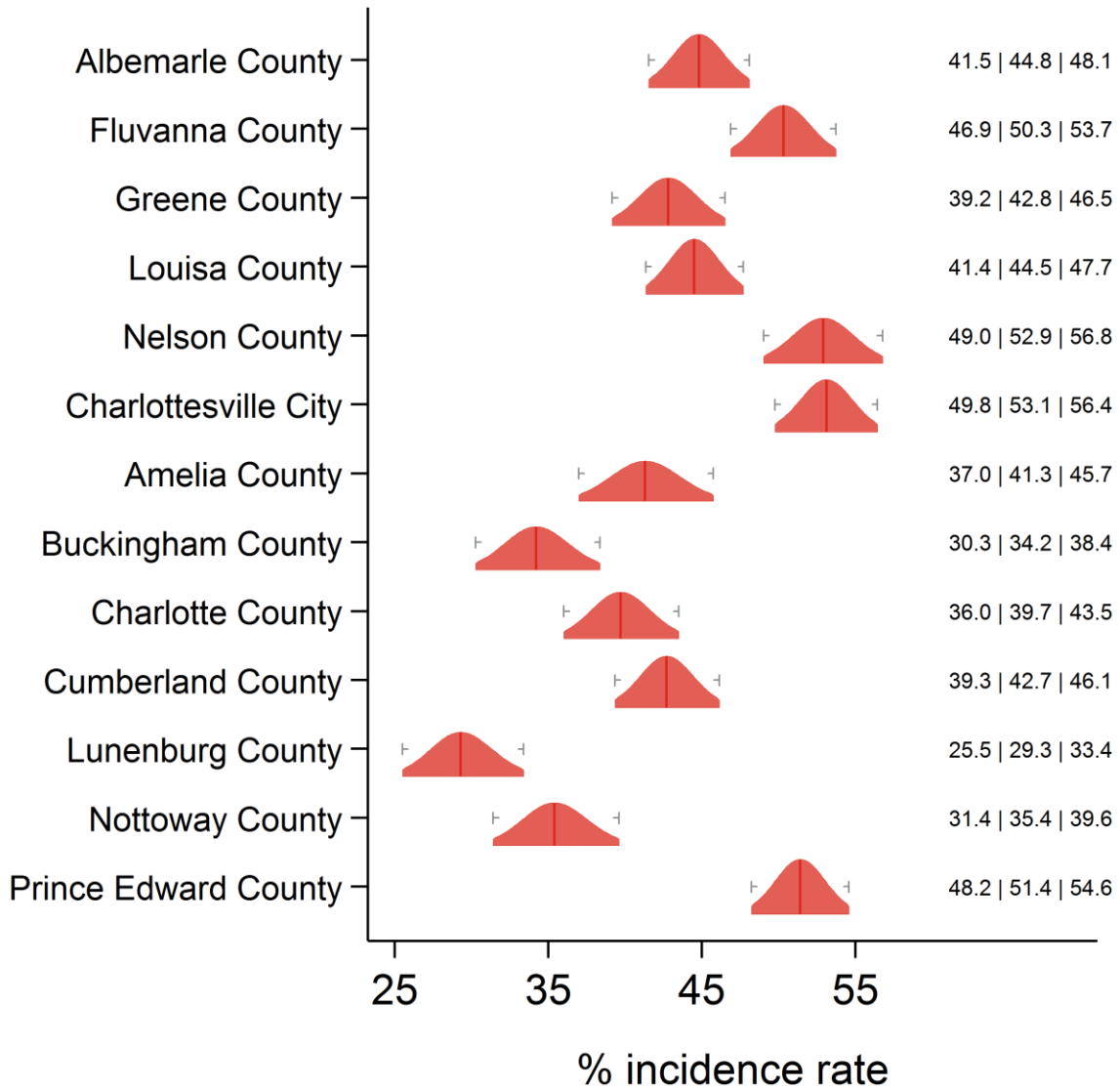
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
Gray markers: 95% confidence interval

Flu vaccination past yr
Alleghany, Roanoke and Central Virginia HDs

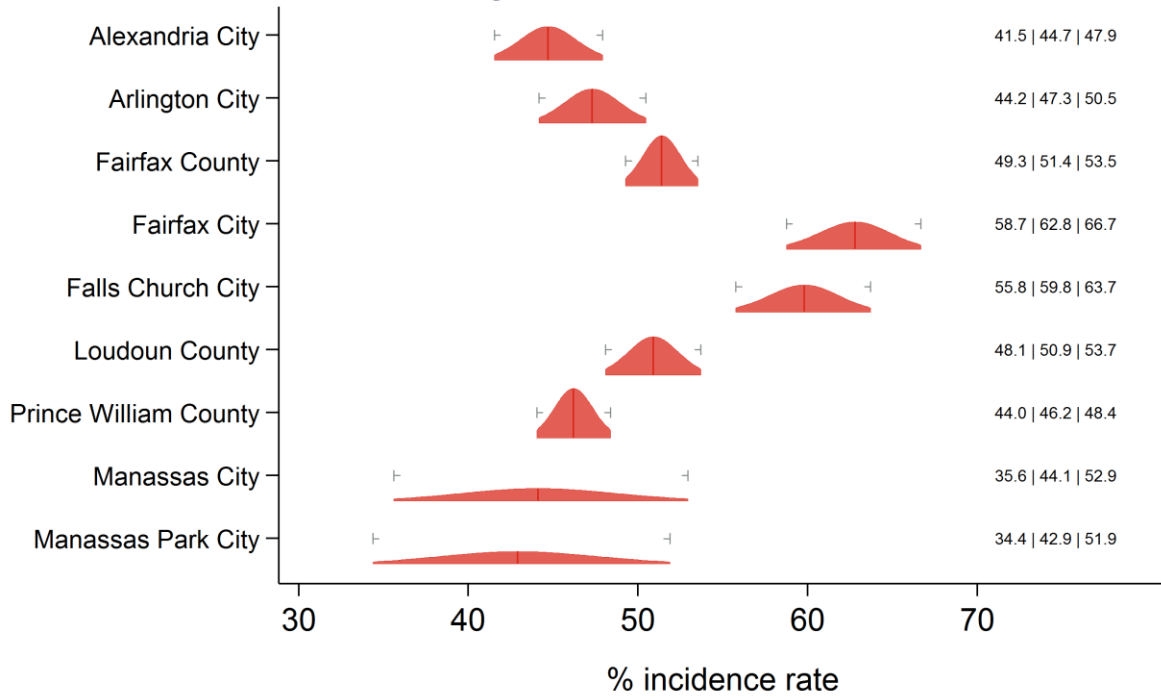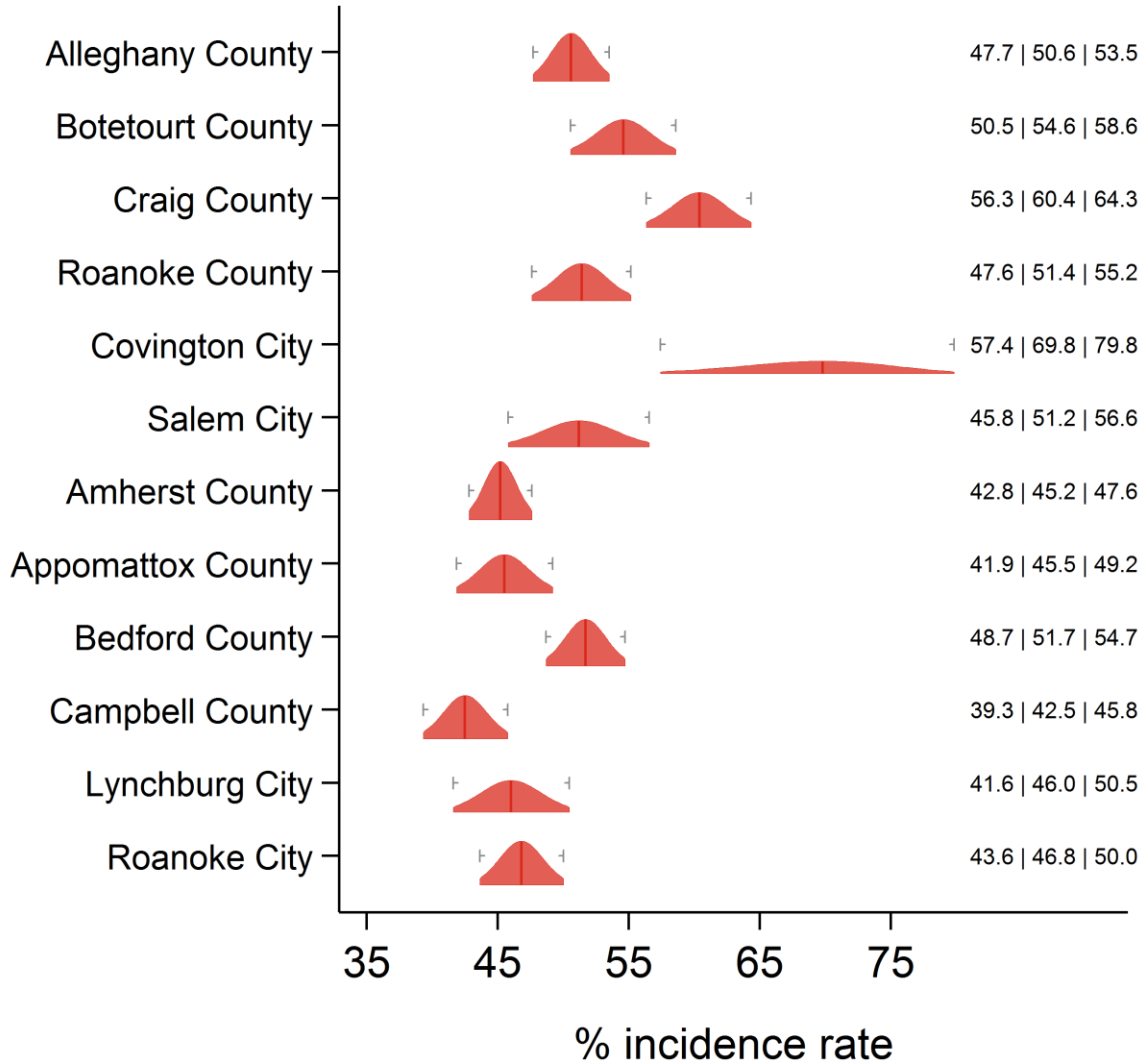| County/City	LCB	Point	UCB
Alleghany County	47.7	50.6	53.5
Botetourt County	50.5	54.6	58.6
Craig County	56.3	60.4	64.3
Roanoke County	47.6	51.4	55.2
Covington City	57.4	69.8	79.8
Salem City	45.8	51.2	56.6
Amherst County	42.8	45.2	47.6
Appomattox County	41.9	45.5	49.2
Bedford County	48.7	51.7	54.7
Campbell County	39.3	42.5	45.8
Lynchburg City	41.6	46.0	50.5
Roanoke City	43.6	46.8	50.0

% incidence rate

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

Flu vaccination past yr
Cumberland Plateau and Lenowisco HDs

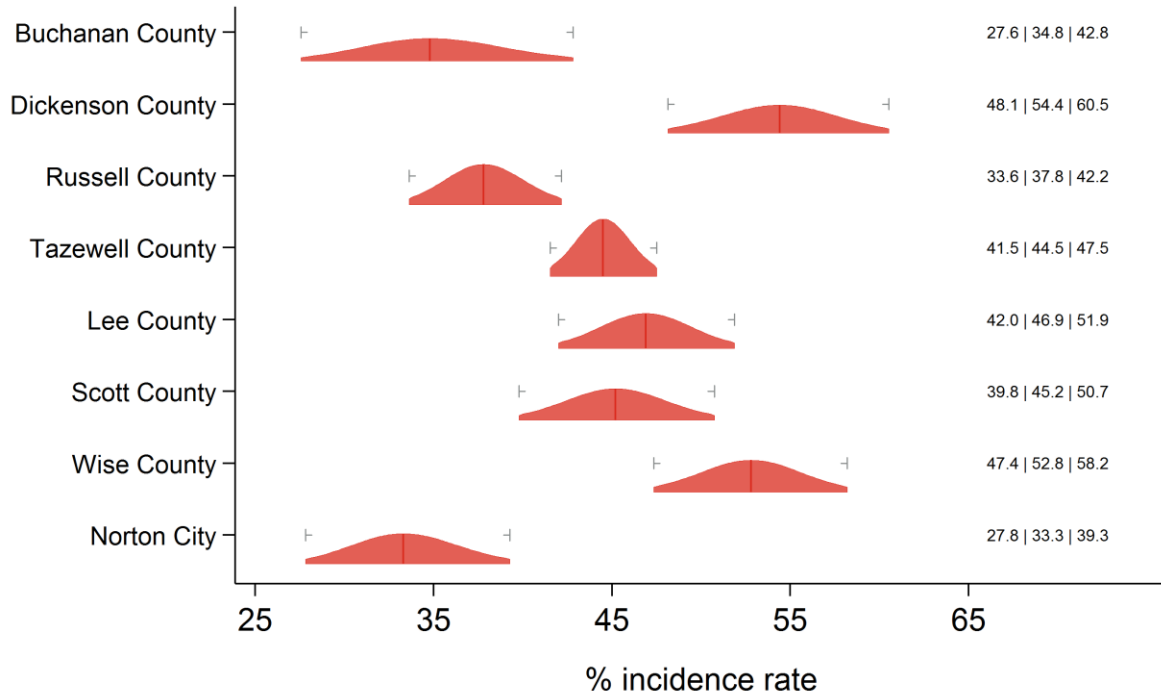| County	LCB	Point Estimate	UCB
Buchanan County	27.6	34.8	42.8
Dickenson County	48.1	54.4	60.5
Russell County	33.6	37.8	42.2
Tazewell County	41.5	44.5	47.5
Lee County	42.0	46.9	51.9
Scott County	39.8	45.2	50.7
Wise County	47.4	52.8	58.2
Norton City	27.8	33.3	39.3

% incidence rate

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

Flu vaccination past yr
Pittsylvania/Danville, Southside and West Piedmont HDs

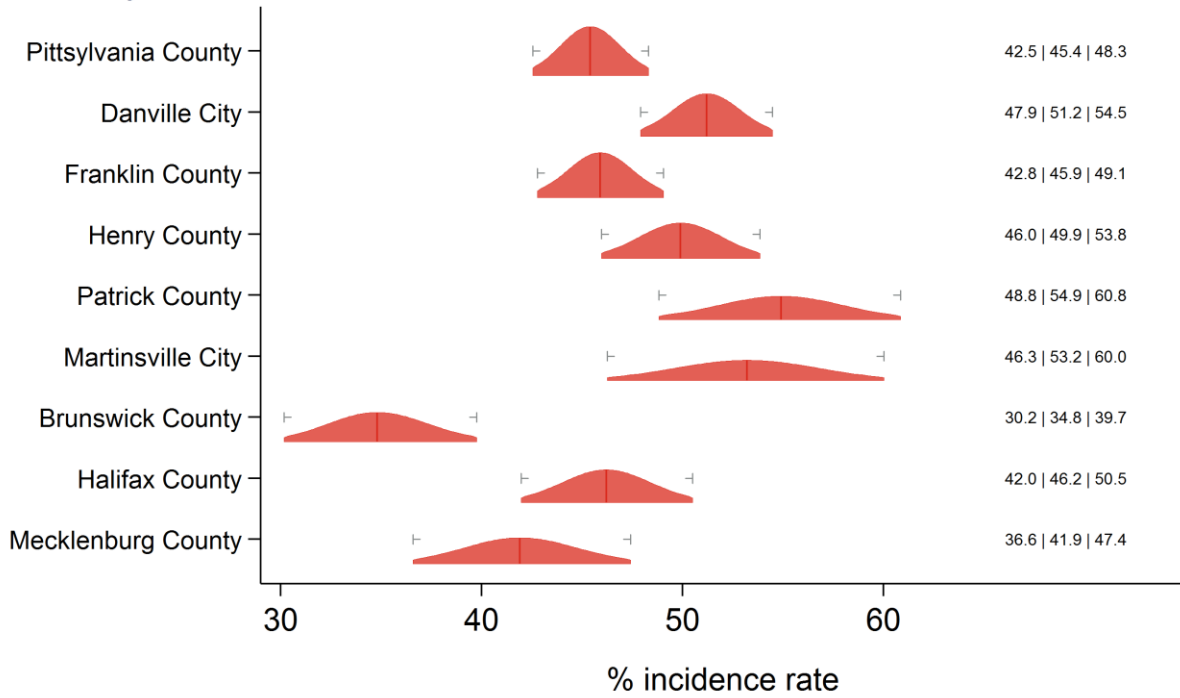| County	95% LCB | Point Estimate | 95% UCB
Pittsylvania County	42.5 | 45.4 | 48.3
Danville City	47.9 | 51.2 | 54.5
Franklin County	42.8 | 45.9 | 49.1
Henry County	46.0 | 49.9 | 53.8
Patrick County	48.8 | 54.9 | 60.8
Martinsville City	46.3 | 53.2 | 60.0
Brunswick County	30.2 | 34.8 | 39.7
Halifax County	42.0 | 46.2 | 50.5
Mecklenburg County	36.6 | 41.9 | 47.4

% incidence rate

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

Flu vaccination past yr
New River and Mount Rogers HDs

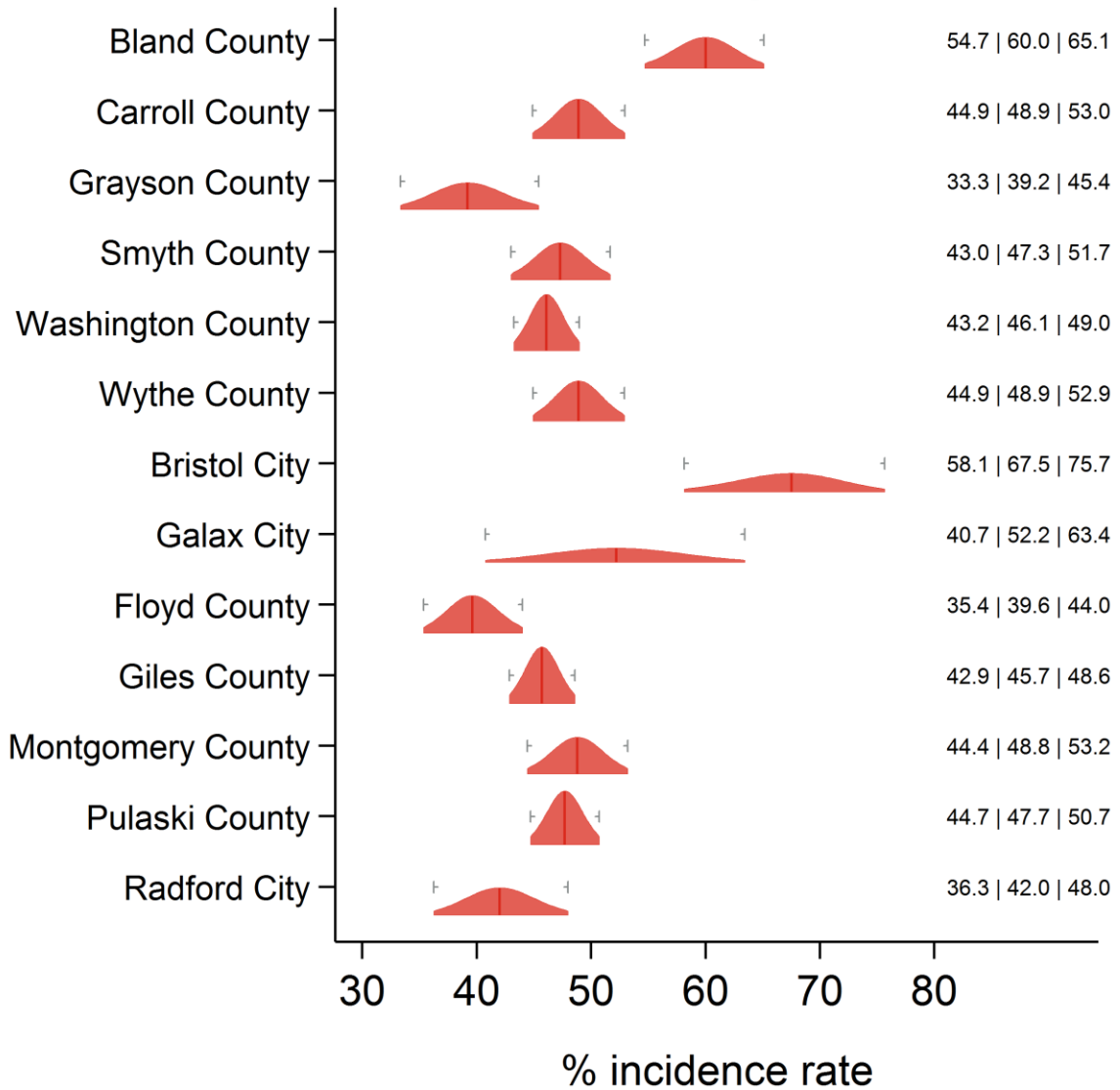| County	LCB | Point Estimate | UCB
Bland County	54.7 | 60.0 | 65.1
Carroll County	44.9 | 48.9 | 53.0
Grayson County	33.3 | 39.2 | 45.4
Smyth County	43.0 | 47.3 | 51.7
Washington County	43.2 | 46.1 | 49.0
Wythe County	44.9 | 48.9 | 52.9
Bristol City	58.1 | 67.5 | 75.7
Galax City	40.7 | 52.2 | 63.4
Floyd County	35.4 | 39.6 | 44.0
Giles County	42.9 | 45.7 | 48.6
Montgomery County	44.4 | 48.8 | 53.2
Pulaski County	44.7 | 47.7 | 50.7
Radford City	36.3 | 42.0 | 48.0

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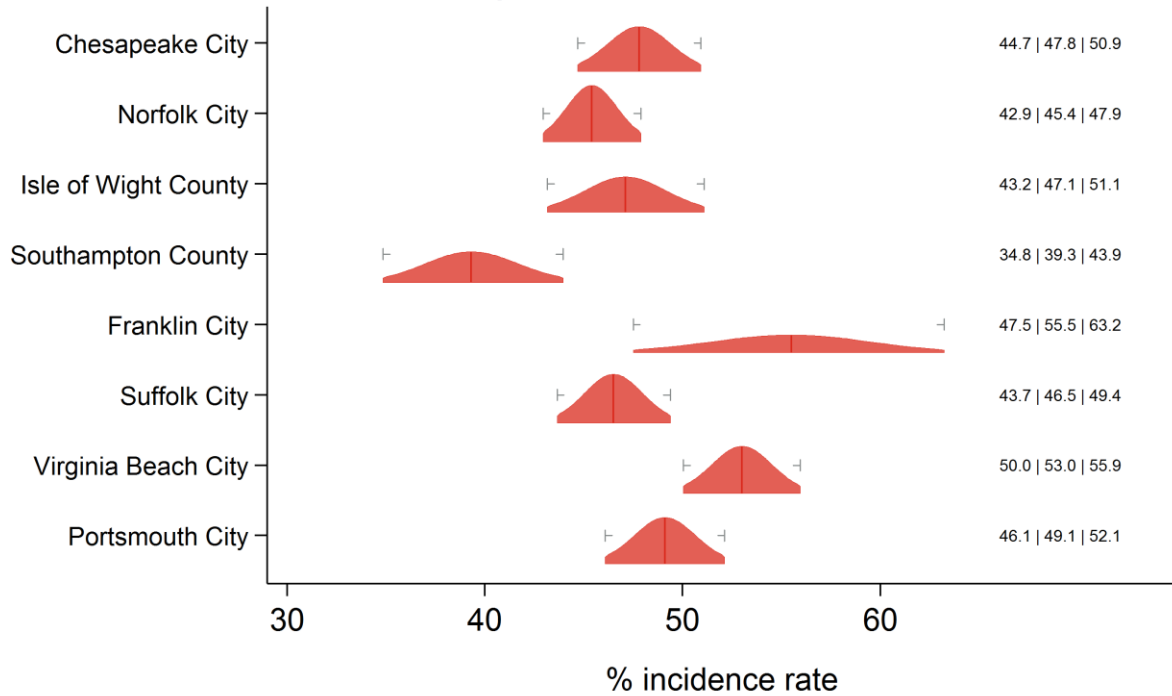
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
Gray markers: 95% confidence interval

Flu vaccination past yr
Norfolk,Portsmouth,Chesapeake,VA Beach,W. Tidewater HDs

Location	LCB	Point Estimate	UCB
Chesapeake City	44.7	47.8	50.9
Norfolk City	42.9	45.4	47.9
Isle of Wight County	43.2	47.1	51.1
Southampton County	34.8	39.3	43.9
Franklin City	47.5	55.5	63.2
Suffolk City	43.7	46.5	49.4
Virginia Beach City	50.0	53.0	55.9
Portsmouth City	46.1	49.1	52.1

% incidence rate

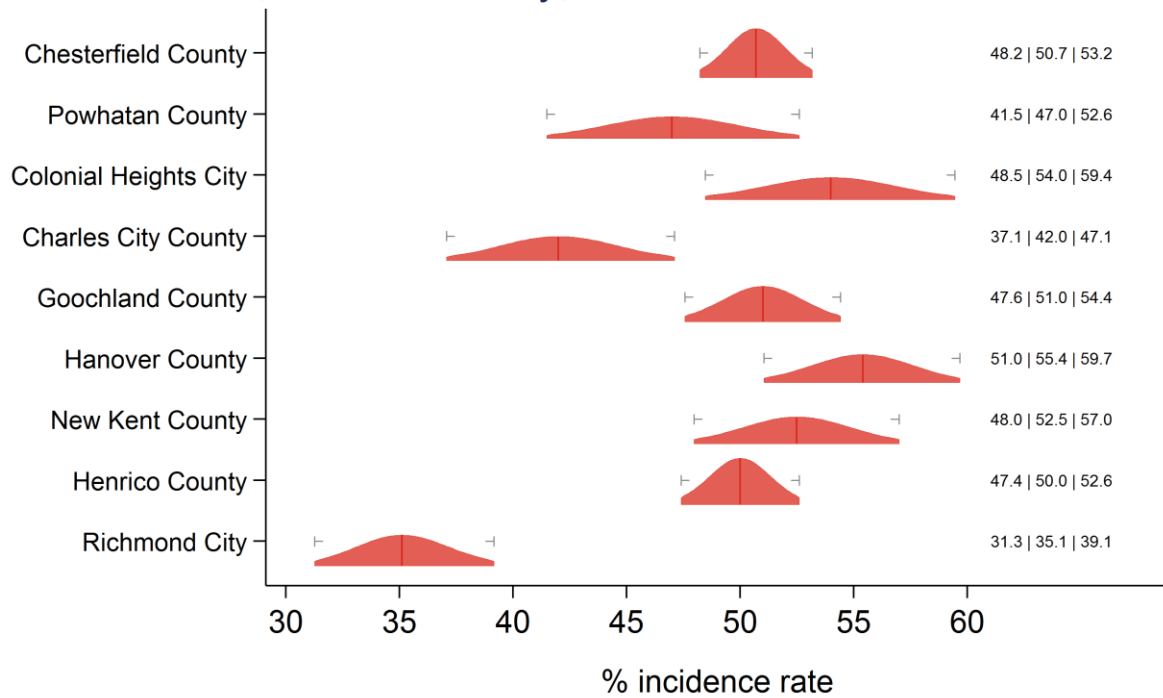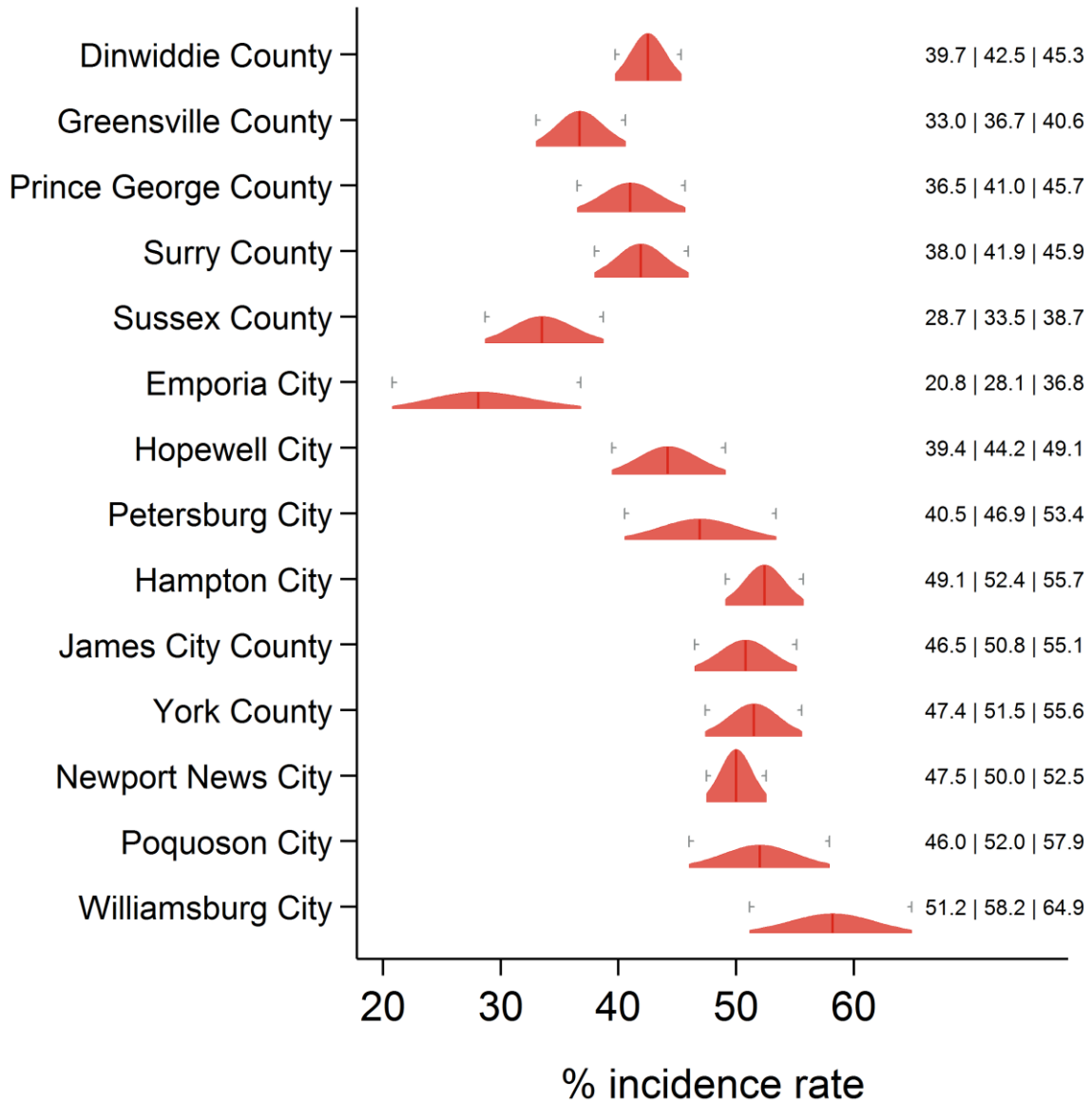Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
Gray markers: 95% confidence interval

Flu vaccination past yr
Chesterfield, Chickahominy, Henrico and Richmond HDs

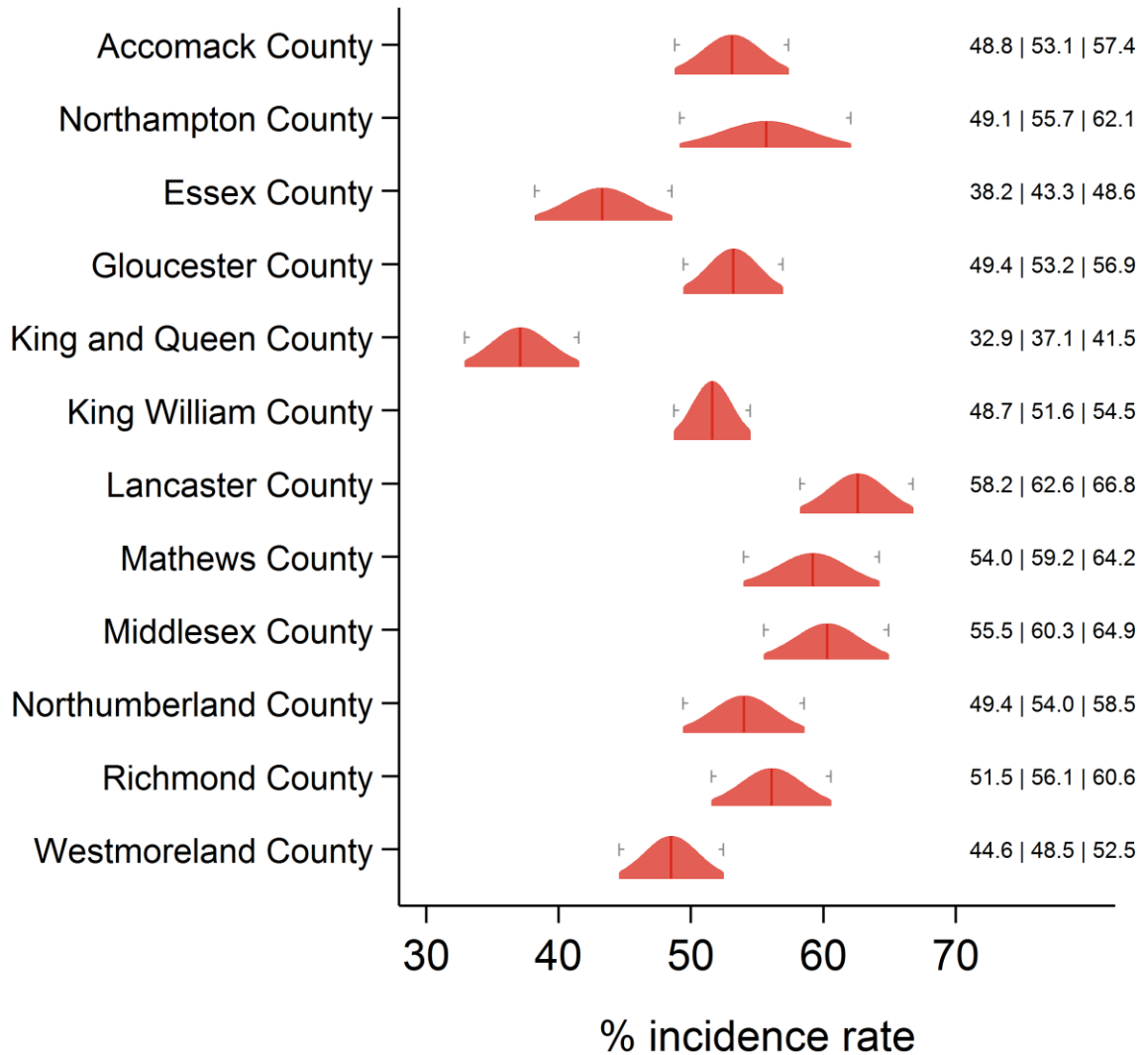| County	2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
Chesterfield County	48.2 | 50.7 | 53.2
Powhatan County	41.5 | 47.0 | 52.6
Colonial Heights City	48.5 | 54.0 | 59.4
Charles City County	37.1 | 42.0 | 47.1
Goochland County	47.6 | 51.0 | 54.4
Hanover County	51.0 | 55.4 | 59.7
New Kent County	48.0 | 52.5 | 57.0
Henrico County	47.4 | 50.0 | 52.6
Richmond City	31.3 | 35.1 | 39.1

% incidence rate

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

Flu vaccination past yr
Crater, Peninsula and Hampton HDs

County/City	2-sided 95% LCB	Point Estimate	2-sided 95% UCB
Dinwiddie County	39.7	42.5	45.3
Greensville County	33.0	36.7	40.6
Prince George County	36.5	41.0	45.7
Surry County	38.0	41.9	45.9
Sussex County	28.7	33.5	38.7
Emporia City	20.8	28.1	36.8
Hopewell City	39.4	44.2	49.1
Petersburg City	40.5	46.9	53.4
Hampton City	49.1	52.4	55.7
James City County	46.5	50.8	55.1
York County	47.4	51.5	55.6
Newport News City	47.5	50.0	52.5
Poquoson City	46.0	52.0	57.9
Williamsburg City	51.2	58.2	64.9

% incidence rate

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

Flu vaccination past yr
Eastern Shore and Three Rivers HDs

County	LCB | Point | UCB
Accomack County	48.8 | 53.1 | 57.4
Northampton County	49.1 | 55.7 | 62.1
Essex County	38.2 | 43.3 | 48.6
Gloucester County	49.4 | 53.2 | 56.9
King and Queen County	32.9 | 37.1 | 41.5
King William County	48.7 | 51.6 | 54.5
Lancaster County	58.2 | 62.6 | 66.8
Mathews County	54.0 | 59.2 | 64.2
Middlesex County	55.5 | 60.3 | 64.9
Northumberland County	49.4 | 54.0 | 58.5
Richmond County	51.5 | 56.1 | 60.6
Westmoreland County	44.6 | 48.5 | 52.5

% 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: 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: 113 areas.

SAE Wilson 95% CI partially overlaps with the 95% direct Wilson CI: 20 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: 130 areas.

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

Direct standard error is zero: 3 areas.

Proportion of SAE variance due to ACS sampling error: min = 1.08%; med = 10.83%; max = 49.80%.

Proportion of SAE variance due to sampling error in regression coefficient estimates: min = 47.60%; med = 85.64%; max = 97.41%.

Proportion of SAE variance due to model selection: min = 0.14%; med = 3.02%; max = 26.68%.

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