

Indicator 13: Poor physical or mental health prevent from doing usual activities

Internal variable name: outc13_poorhlthdays

Definition: During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?

Predictive models

	Mixed, demos only	Logit, no area effects	Mixed with area covariates
	b/se	b/se	b/se
Outcome 13: Poor physical or mental health prevent from doing usual activities			
NH Black vs. NH White	0.0822 (0.1122)	0.0239 (0.1162)	0.0239 (0.1205)
NH Asian vs. NH White	-0.5457 (0.2782)	-0.4740 (0.2986)	-0.4740 (0.2745)
NH Other vs. NH White	0.0554 (0.1785)	0.0473 (0.1917)	0.0473 (0.1847)
Hispanic vs. NH White	-0.0667 (0.2108)	-0.0039 (0.2013)	-0.0039 (0.2188)
Female	0.1565* (0.0695)	0.1614 (0.0875)	0.1614* (0.0715)
Age 18-34 vs. 65+	0.0862 (0.1147)	0.0955 (0.1168)	0.0955 (0.1180)
Age 35-44 vs. 65+	0.0903 (0.1529)	0.1121 (0.1307)	0.1121 (0.1518)
Age 45-54 vs. 65+	0.2889** (0.1056)	0.2952* (0.1175)	0.2952** (0.1044)
Age 55-64 vs. 65+	0.3167** (0.1120)	0.3196** (0.1120)	0.3196** (0.1137)
All Sites Female Rate		-0.0009 (0.0005)	-0.0009** (0.0003)
% occupied HUs - renter-occupied		3.8376* (1.6982)	3.8376*** (0.9599)
% HHs receiving SNAP		0.0367* (0.0166)	0.0367** (0.0121)
VA BRFSS 2014 SAE outc4_health_cover		-3.5682* (1.4683)	-3.5682*** (0.9770)
% renter occupied HUs, ACS 2016 5yr		-3.8267* (1.6987)	-3.8267*** (0.9610)
% crowded housing > 1.01 occupants per room		0.3981 (0.2062)	0.3981*** (0.1117)
Crude mortality rate of disease of the heart per 10K		-0.0479**	-0.0479***

c.ACS_pct_crowded#c.rate_cod_diseaseoftheheart		(0.0169) 0.0193*	(0.0106) 0.0193***
o.% crowded housing > 1.01 occupants per room		(0.0094) 0.0000 (.)	(0.0049)
Historic SAE: current smoking rate		0.0762** (0.0239)	0.0762*** (0.0146)
c.ACS_pct_crowded#c.currentsmoke		-0.0372** (0.0133)	-0.0372*** (0.0067)
Intercept	-0.4946*** (0.0843)	-0.9976* (0.4747)	-0.9976*** (0.2910)
Area effect variance	0.0097 (0.0116)		0.0000 (0.0000)

Number of alternative models used to estimate model error = 2.

Results

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Augusta County	51015	43.3%	(27.8%, 60.1%)	42.6%	(38.6%, 46.7%)
Bath County	51017	21.0%	(2.4%, 79.8%)	27.8%	(20.7%, 36.3%)
Caroline County	51033	64.6%	(17.9%, 93.8%)	45.2%	(41.2%, 49.2%)
Clarke County	51043	26.2%	(7.1%, 62.2%)	39.4%	(33.9%, 45.2%)
Culpeper County	51047	63.3%	(34.9%, 84.8%)	43.4%	(39.6%, 47.3%)
Fauquier County	51061	44.2%	(24.2%, 66.3%)	38.0%	(34.6%, 41.4%)
Frederick County	51069	15.1%	(7.8%, 36.6%)	36.8%	(32.2%, 41.6%)
Highland County	51091	40.3%	(3.4%, 92.9%)	42.9%	(36.5%, 49.5%)
King George County	51099	67.8%	(26.7%, 92.4%)	50.7%	(45.7%, 55.6%)
Madison County	51113	41.0%	(11.5%, 78.9%)	51.5%	(45.5%, 57.4%)
Orange County	51137	31.4%	(8.9%, 68.3%)	40.7%	(36.0%, 45.5%)
Page County	51139	49.6%	(21.4%, 78.1%)	40.1%	(36.3%, 44.1%)
Rappahannock County	51157	67.6%	(18.4%, 94.3%)	32.6%	(28.7%, 36.7%)
Rockbridge County	51163	41.3%	(19.3%, 67.3%)	45.5%	(41.4%, 49.5%)
Rockingham County	51165	35.6%	(21.8%, 52.4%)	42.0%	(38.4%, 45.7%)
Shenandoah County	51171	41.9%	(21.5%, 65.6%)	38.9%	(35.4%, 42.4%)
Spotsylvania County	51177	41.5%	(24.5%, 60.8%)	47.3%	(43.3%, 51.4%)
Stafford County	51179	53.3%	(38.2%, 67.8%)	45.2%	(41.3%, 49.2%)
Warren County	51187	31.7%	(14.2%, 56.7%)	43.7%	(40.3%, 47.3%)
Buena Vista City	51530	35.3%	(3.0%, 90.6%)	49.5%	(44.4%, 54.6%)
Fredericksburg City	51630	27.3%	(11.3%, 52.5%)	54.6%	(49.1%, 60.0%)
Harrisonburg City	51660	35.4%	(4.1%, 87.6%)	28.2%	(20.3%, 37.8%)
Lexington City	51678	100.0%	(0.6%, 100.0%)	25.7%	(7.1%, 61.0%)
Staunton City	51790	26.8%	(3.3%, 86.2%)	39.4%	(31.6%, 47.8%)
Waynesboro City	51820	41.5%	(6.0%, 88.7%)	43.6%	(37.2%, 50.3%)
Winchester City	51840	31.4%	(4.6%, 81.3%)	37.5%	(30.4%, 45.2%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Albemarle County	51003	46.6%	(30.8%, 63.0%)	38.7%	(34.2%, 43.5%)
Alleghany County	51005	56.7%	(28.5%, 81.1%)	43.5%	(38.8%, 48.3%)
Amherst County	51009	25.6%	(8.2%, 57.0%)	34.6%	(30.0%, 39.5%)
Appomattox County	51011	35.2%	(12.9%, 66.6%)	39.5%	(34.2%, 45.1%)
Arlington City	51013	46.2%	(31.8%, 61.3%)	42.6%	(38.0%, 47.3%)
Bedford County	51019	46.1%	(30.3%, 62.7%)	42.6%	(39.8%, 45.6%)
Botetourt County	51023	11.4%	(4.5%, 48.1%)	30.5%	(25.7%, 35.9%)
Campbell County	51031	43.3%	(26.1%, 62.3%)	40.2%	(36.3%, 44.3%)
Craig County	51045	92.1%	(31.6%, 98.2%)	70.2%	(63.3%, 76.2%)
Fairfax County	51059	36.0%	(30.6%, 41.9%)	35.0%	(33.2%, 36.8%)
Fluvanna County	51065	29.5%	(10.3%, 60.5%)	30.3%	(26.1%, 34.8%)
Greene County	51079	33.1%	(10.6%, 67.4%)	44.6%	(38.7%, 50.8%)
Loudoun County	51107	40.0%	(29.8%, 51.3%)	43.9%	(39.1%, 48.8%)
Louisa County	51109	51.1%	(24.3%, 77.3%)	38.9%	(35.4%, 42.6%)
Nelson County	51125	12.0%	(2.2%, 69.8%)	37.9%	(33.1%, 42.9%)
Prince William County	51153	37.0%	(28.4%, 46.5%)	38.3%	(35.8%, 40.9%)
Roanoke County	51161	36.6%	(23.2%, 52.4%)	38.4%	(34.8%, 42.2%)
Alexandria City	51510	41.9%	(26.4%, 59.1%)	39.2%	(34.1%, 44.5%)
Charlottesville City	51540	41.9%	(15.9%, 73.2%)	36.0%	(28.6%, 44.1%)
Covington City	51580	39.2%	(3.2%, 92.5%)	39.9%	(29.7%, 51.2%)
Fairfax City	51600	42.0%	(25.8%, 60.1%)	40.1%	(35.2%, 45.2%)
Falls Church City	51610	47.1%	(15.3%, 81.4%)	38.9%	(33.2%, 44.8%)
Lynchburg City	51680	55.2%	(37.4%, 71.8%)	49.6%	(45.6%, 53.6%)
Manassas City	51683	23.4%	(6.1%, 58.6%)	34.6%	(28.9%, 40.9%)
Manassas Park City	51685	.%	(.%, .%)	50.3%	(41.4%, 59.2%)
Salem City	51775	58.9%	(23.3%, 87.1%)	33.0%	(28.5%, 37.9%)

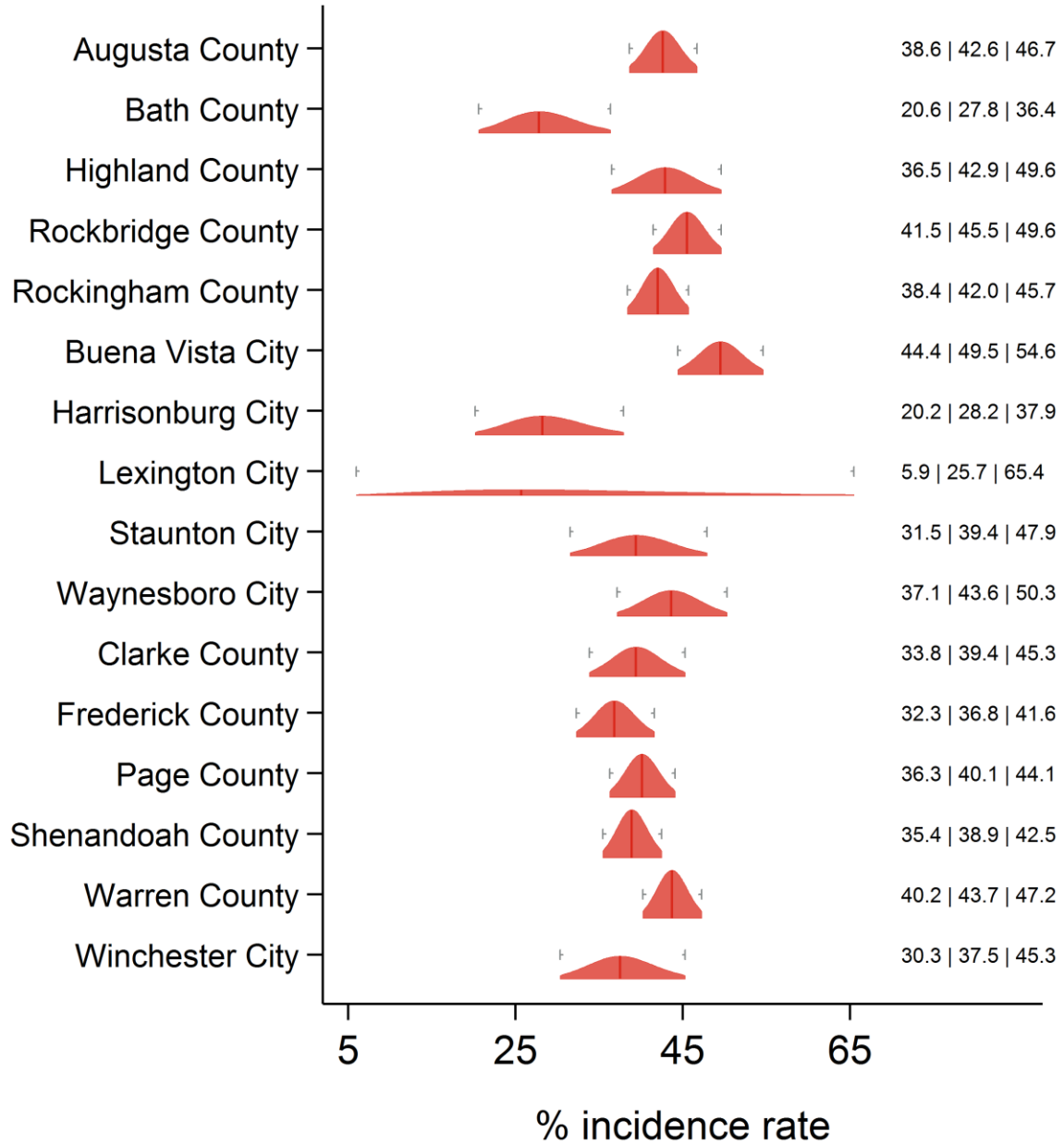
County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Bland County	51021	65.0%	(18.7%, 93.4%)	44.4%	(38.6%, 50.4%)
Buchanan County	51027	58.9%	(30.1%, 82.7%)	63.2%	(56.6%, 69.3%)
Carroll County	51035	60.7%	(30.7%, 84.4%)	51.9%	(45.1%, 58.6%)
Dickenson County	51051	77.0%	(49.8%, 91.9%)	60.7%	(54.2%, 66.8%)
Floyd County	51063	25.0%	(7.0%, 59.8%)	31.7%	(25.7%, 38.3%)
Franklin County	51067	47.2%	(23.4%, 72.3%)	41.6%	(37.6%, 45.7%)
Giles County	51071	44.7%	(22.5%, 69.2%)	38.6%	(31.3%, 46.4%)
Grayson County	51077	22.0%	(6.7%, 66.8%)	46.9%	(39.3%, 54.7%)
Henry County	51089	48.8%	(27.5%, 70.6%)	45.5%	(40.1%, 51.0%)
Lee County	51105	67.4%	(27.7%, 91.8%)	51.3%	(44.3%, 58.1%)
Montgomery County	51121	37.6%	(22.4%, 55.8%)	47.5%	(43.3%, 51.8%)
Patrick County	51141	12.3%	(1.7%, 52.9%)	37.3%	(32.6%, 42.4%)
Pittsylvania County	51143	60.9%	(45.8%, 74.1%)	49.9%	(45.3%, 54.4%)
Pulaski County	51155	74.3%	(45.5%, 90.9%)	58.6%	(52.2%, 64.6%)
Russell County	51167	51.3%	(28.3%, 73.7%)	52.8%	(47.3%, 58.2%)
Scott County	51169	68.8%	(42.4%, 86.8%)	46.8%	(42.4%, 51.3%)
Smyth County	51173	55.3%	(31.8%, 76.6%)	49.0%	(44.5%, 53.6%)
Tazewell County	51185	39.5%	(20.9%, 61.7%)	50.5%	(45.1%, 55.9%)
Washington County	51191	44.4%	(26.9%, 63.3%)	50.9%	(46.1%, 55.7%)
Wise County	51195	67.0%	(49.6%, 80.7%)	66.8%	(61.0%, 72.1%)
Wythe County	51197	48.4%	(22.4%, 75.3%)	49.7%	(43.7%, 55.6%)
Bristol City	51520	100.0%	(0.6%, 100.0%)	38.5%	(30.5%, 47.0%)
Danville City	51590	43.5%	(18.5%, 72.3%)	51.8%	(44.8%, 58.7%)
Galax City	51640	43.5%	(1.9%, 96.9%)	50.1%	(39.7%, 60.5%)
Martinsville City	51690	33.1%	(6.8%, 76.9%)	45.5%	(36.6%, 54.7%)
Norton City	51720	68.5%	(13.0%, 96.9%)	61.5%	(53.2%, 69.1%)
Radford City	51750	55.4%	(16.4%, 88.7%)	56.6%	(48.3%, 64.6%)
Roanoke City	51770	41.9%	(27.1%, 58.4%)	44.8%	(40.4%, 49.3%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Amelia County	51007	26.3%	(10.4%, 52.2%)	41.1%	(36.1%, 46.2%)
Brunswick County	51025	75.7%	(42.8%, 91.4%)	61.9%	(55.0%, 68.3%)
Buckingham County	51029	58.3%	(32.9%, 80.0%)	47.5%	(40.9%, 54.1%)
Charles City County	51036	29.3%	(2.5%, 88.2%)	43.9%	(39.7%, 48.1%)
Charlotte County	51037	52.4%	(24.0%, 79.3%)	50.6%	(44.8%, 56.3%)
Chesterfield County	51041	40.5%	(30.3%, 51.7%)	39.2%	(36.6%, 41.9%)
Cumberland County	51049	16.1%	(6.0%, 53.2%)	41.8%	(33.7%, 50.4%)
Dinwiddie County	51053	22.6%	(6.8%, 54.0%)	40.7%	(35.3%, 46.2%)
Goochland County	51075	57.1%	(24.0%, 84.9%)	40.0%	(36.1%, 43.9%)
Greensville County	51081	27.2%	(5.5%, 70.5%)	33.9%	(26.6%, 42.0%)
Halifax County	51083	55.2%	(33.1%, 75.5%)	40.1%	(35.0%, 45.4%)
Hanover County	51085	25.1%	(13.6%, 41.6%)	32.2%	(28.0%, 36.8%)
Henrico County	51087	51.7%	(38.9%, 64.3%)	48.3%	(45.0%, 51.7%)
Lunenburg County	51111	46.2%	(19.7%, 75.1%)	39.5%	(34.0%, 45.4%)
Mecklenburg County	51117	29.8%	(15.1%, 50.4%)	40.0%	(33.9%, 46.5%)
New Kent County	51127	28.6%	(9.3%, 61.1%)	34.2%	(30.4%, 38.2%)
Nottoway County	51135	70.6%	(27.5%, 93.8%)	64.5%	(52.1%, 75.2%)
Powhatan County	51145	37.2%	(11.7%, 72.5%)	35.5%	(32.0%, 39.3%)
Prince Edward County	51147	46.8%	(25.2%, 69.6%)	45.9%	(43.2%, 48.7%)
Prince George County	51149	53.8%	(31.9%, 74.3%)	50.1%	(46.4%, 53.8%)
Surry County	51181	20.6%	(3.9%, 62.4%)	43.4%	(38.9%, 48.1%)
Sussex County	51183	34.5%	(10.3%, 70.7%)	45.3%	(39.8%, 50.9%)
Colonial Heights City	51570	60.4%	(27.7%, 85.8%)	36.0%	(31.7%, 40.5%)
Emporia City	51595	62.9%	(3.5%, 98.6%)	61.5%	(45.6%, 75.2%)
Hopewell City	51670	52.0%	(21.0%, 81.5%)	53.2%	(47.8%, 58.4%)
Petersburg City	51730	52.9%	(29.6%, 75.0%)	60.2%	(52.0%, 67.8%)
Richmond City	51760	51.8%	(36.1%, 67.2%)	52.3%	(47.6%, 56.9%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Accomack County	51001	37.2%	(22.3%, 55.0%)	36.6%	(31.4%, 42.1%)
Essex County	51057	54.4%	(19.7%, 85.3%)	53.4%	(47.7%, 59.1%)
Gloucester County	51073	41.9%	(24.7%, 61.4%)	39.6%	(36.9%, 42.4%)
Isle of Wight County	51093	51.9%	(23.0%, 79.5%)	37.9%	(34.4%, 41.6%)
James City County	51095	36.2%	(19.7%, 56.7%)	32.0%	(27.4%, 37.0%)
King and Queen County	51097	50.4%	(14.7%, 85.7%)	29.9%	(23.1%, 37.6%)
King William County	51101	43.3%	(10.2%, 83.7%)	36.7%	(33.3%, 40.3%)
Lancaster County	51103	21.2%	(4.0%, 63.6%)	21.8%	(15.2%, 30.2%)
Mathews County	51115	64.6%	(26.0%, 90.4%)	43.7%	(39.8%, 47.7%)
Middlesex County	51119	36.2%	(10.2%, 73.9%)	33.3%	(27.9%, 39.3%)
Northampton County	51131	45.2%	(21.0%, 71.9%)	35.5%	(29.4%, 42.1%)
Northumberland County	51133	56.8%	(30.1%, 80.1%)	44.1%	(39.8%, 48.5%)
Richmond County	51159	53.9%	(18.4%, 85.8%)	41.3%	(36.9%, 45.9%)
Southampton County	51175	47.6%	(10.4%, 87.7%)	53.8%	(49.2%, 58.4%)
Westmoreland County	51193	49.1%	(21.8%, 77.0%)	37.4%	(32.6%, 42.6%)
York County	51199	36.4%	(19.6%, 57.4%)	36.9%	(33.4%, 40.5%)
Chesapeake City	51550	44.4%	(31.8%, 57.7%)	41.9%	(39.0%, 44.9%)
Franklin City	51620	56.7%	(24.7%, 84.0%)	58.0%	(49.5%, 66.2%)
Hampton City	51650	35.6%	(24.8%, 48.1%)	34.7%	(30.4%, 39.3%)
Newport News City	51700	54.1%	(39.5%, 68.0%)	49.0%	(44.7%, 53.4%)
Norfolk City	51710	46.1%	(34.3%, 58.3%)	50.6%	(46.7%, 54.6%)
Poquoson City	51735	19.2%	(2.1%, 83.9%)	37.5%	(33.3%, 41.9%)
Portsmouth City	51740	47.2%	(32.9%, 61.9%)	49.8%	(45.9%, 53.8%)
Suffolk City	51800	55.3%	(38.2%, 71.2%)	49.0%	(45.2%, 52.9%)
Virginia Beach City	51810	44.6%	(35.1%, 54.5%)	44.2%	(41.3%, 47.2%)
Williamsburg City	51830	21.8%	(1.7%, 81.8%)	28.2%	(18.0%, 41.2%)

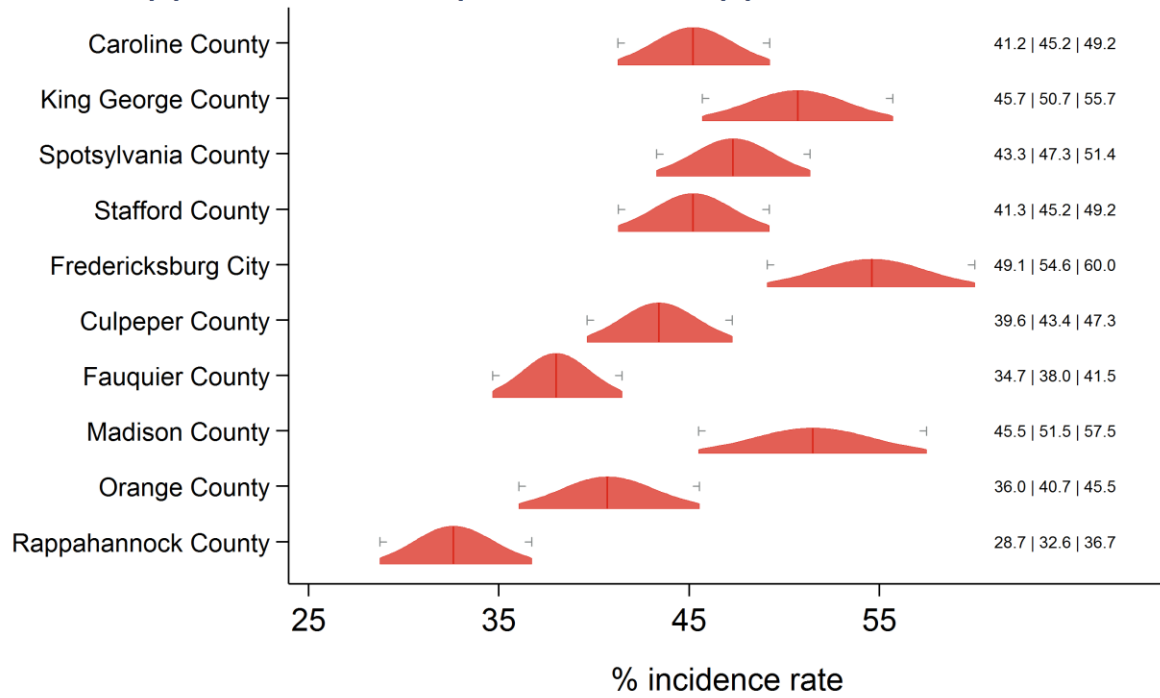
Graphical representation

Poor health prevents activities Central Shenandoah and Lord Fairfax HDs



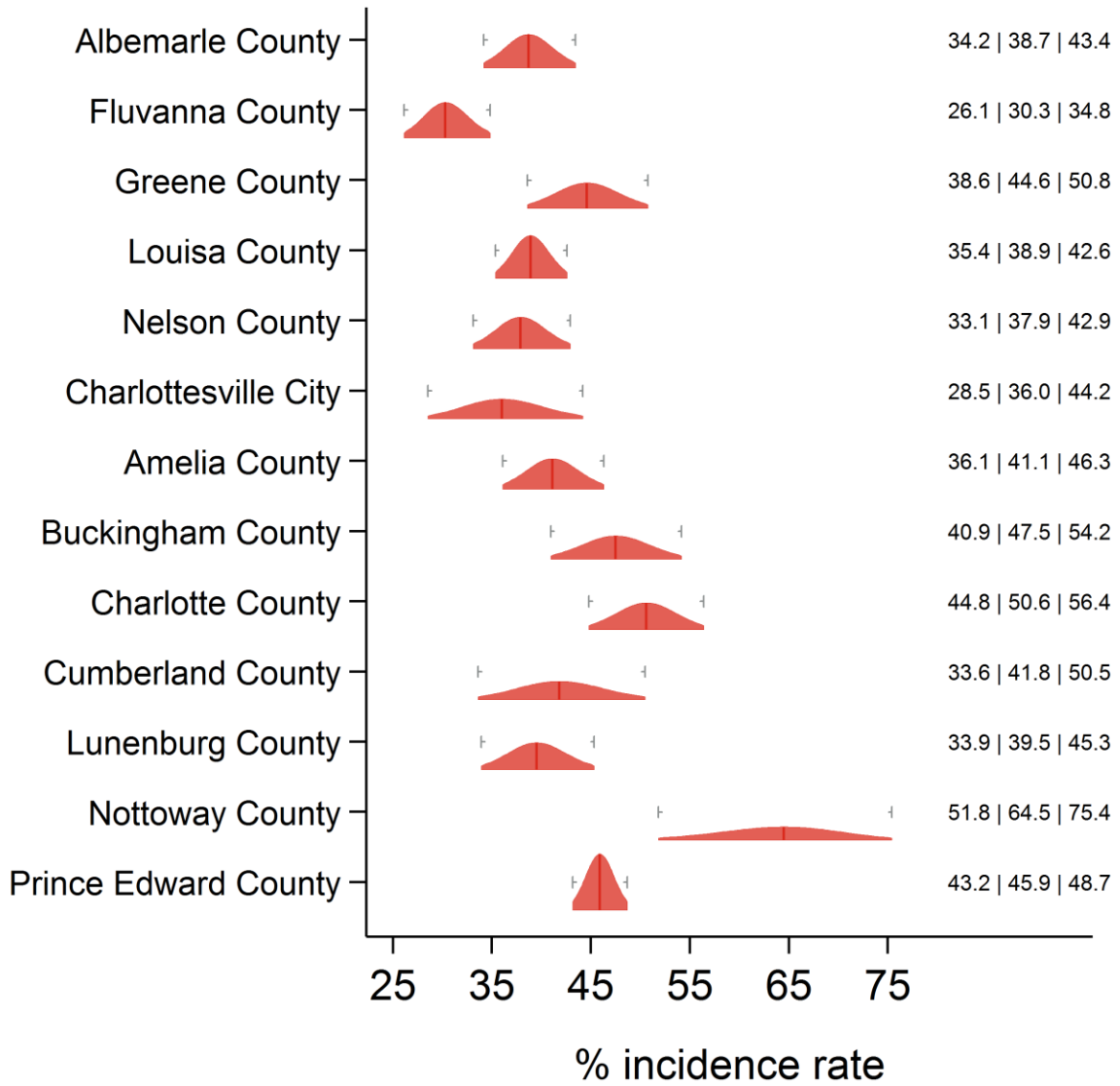
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Poor health prevents activities Rappahannock/Rapidan and Rappahannock HDs



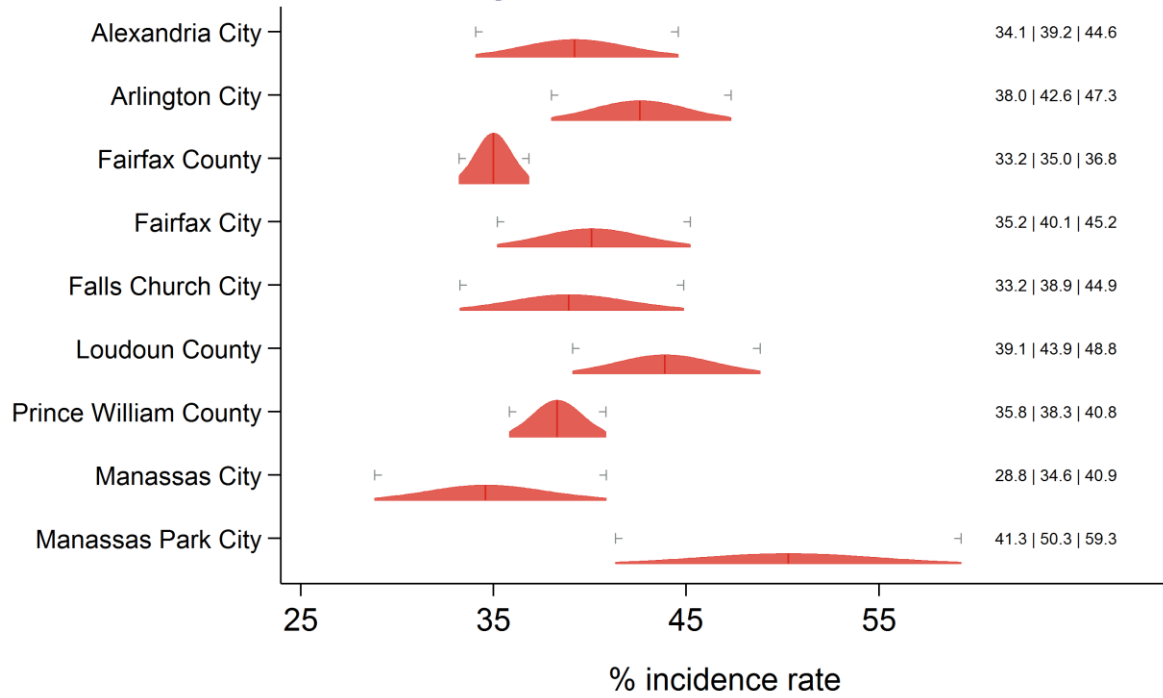
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Poor health prevents activities Thomas Jefferson and Piedmont HDs



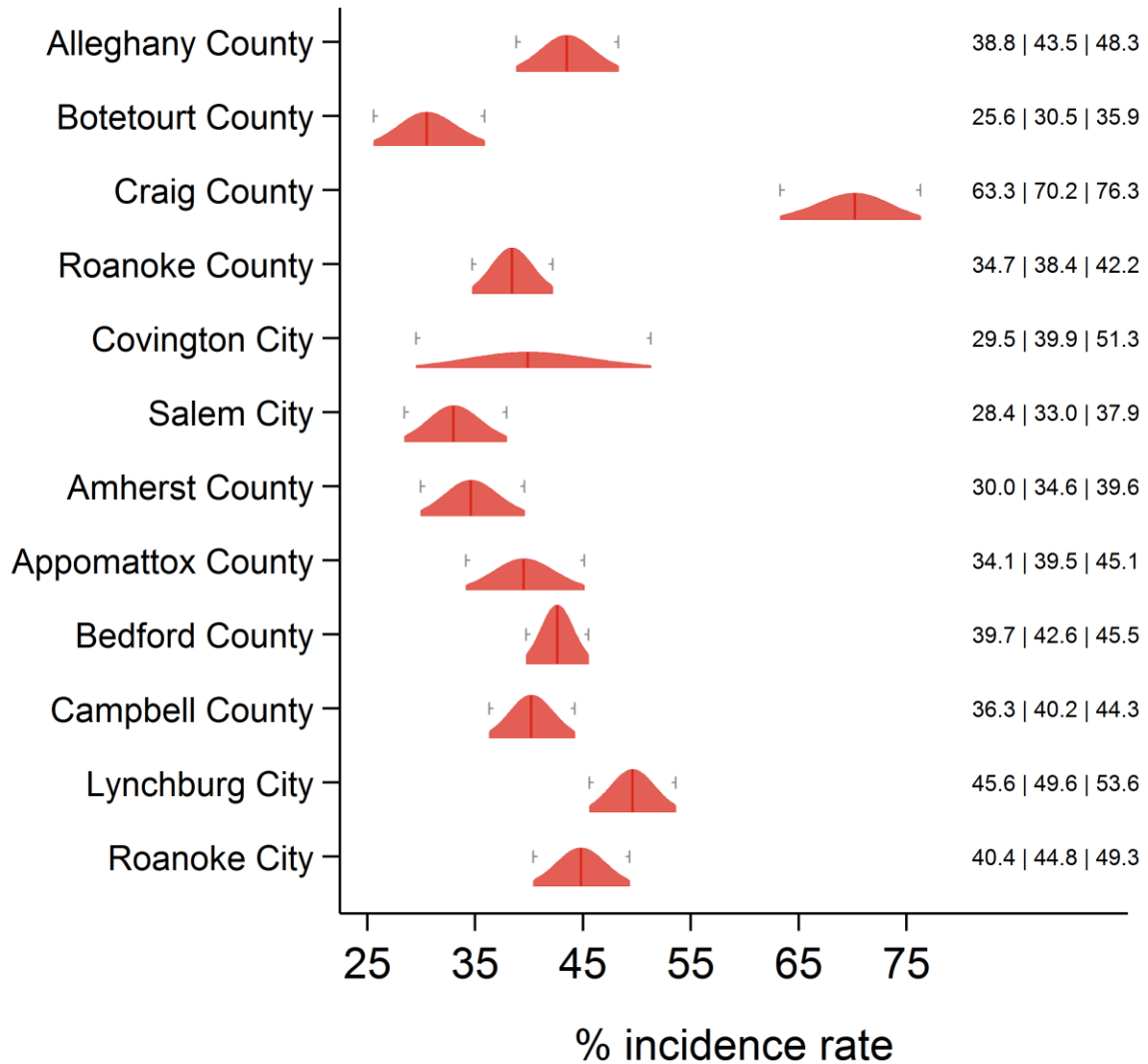
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Poor health prevents activities Alexandria, Fairfax, Arlington, Loudon, Prince William HDs



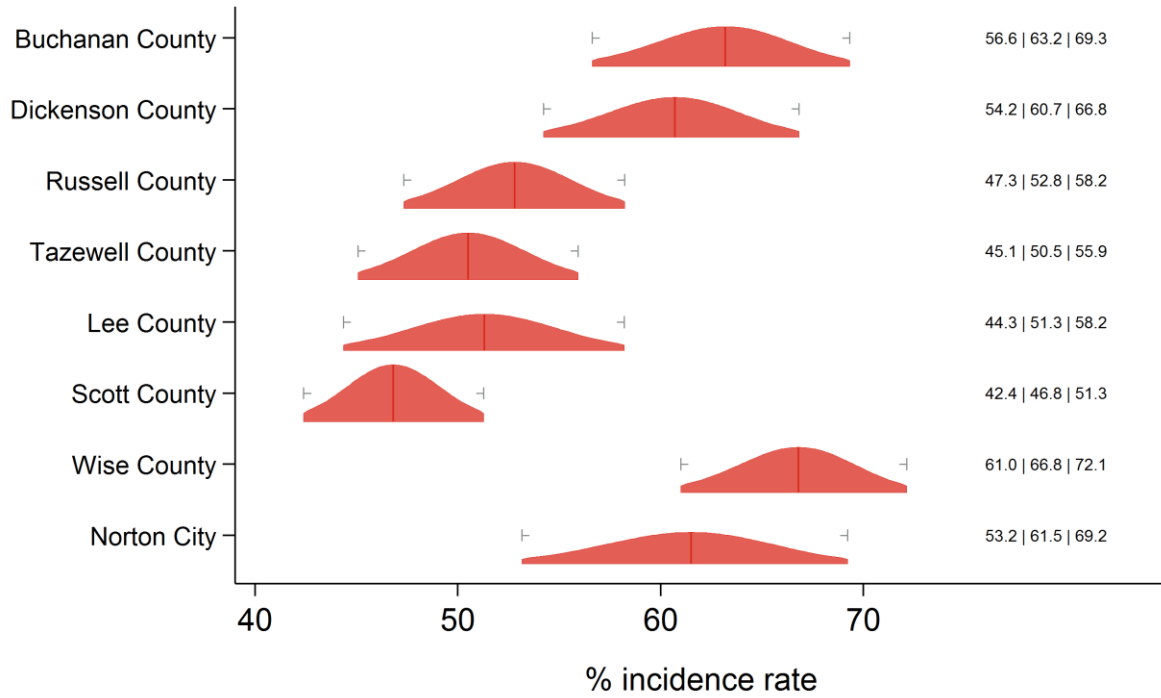
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Poor health prevents activities Alleghany, Roanoke and Central Virginia HDs



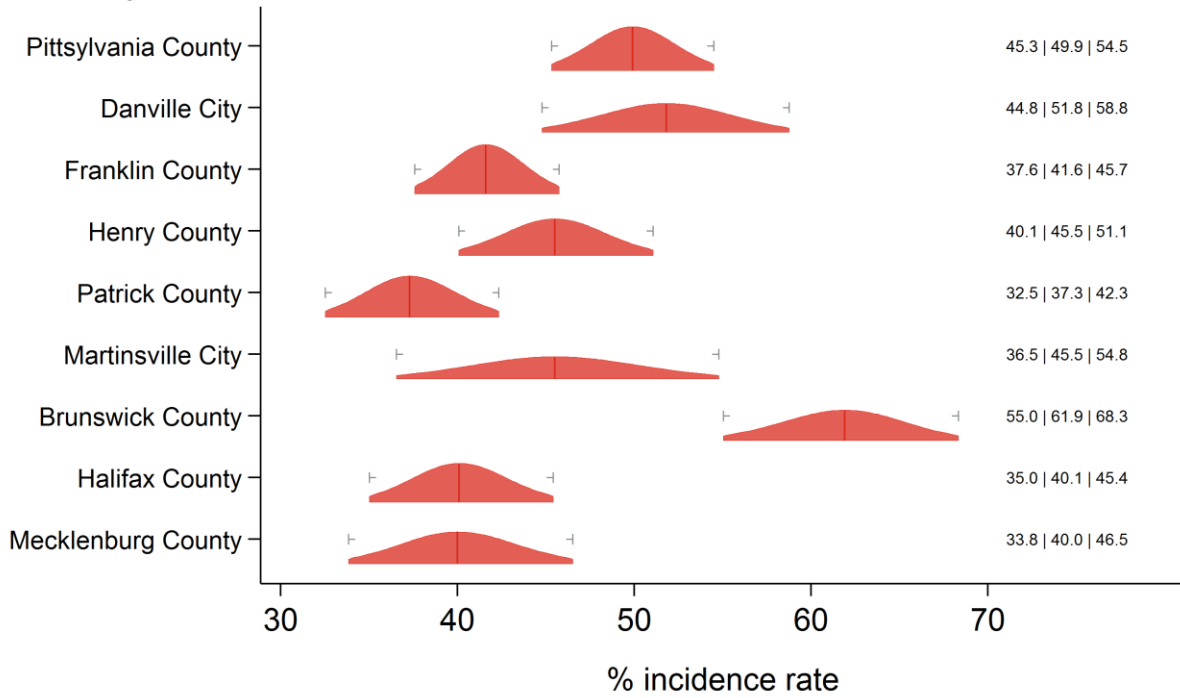
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Poor health prevents activities Cumberland Plateau and Lenowisco HDs



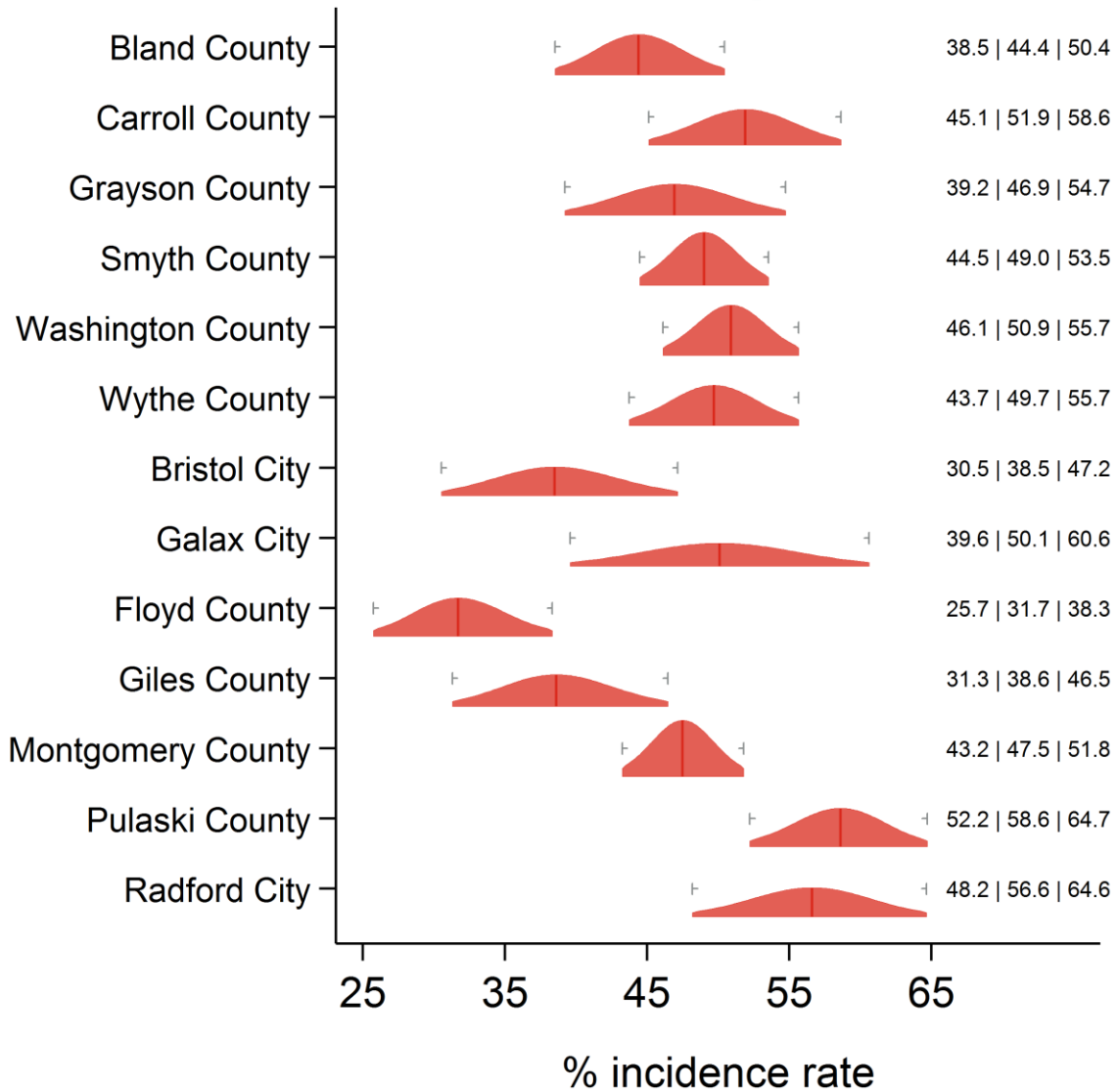
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Poor health prevents activities Pittsylvania/Danville, Southside and West Piedmont HDs



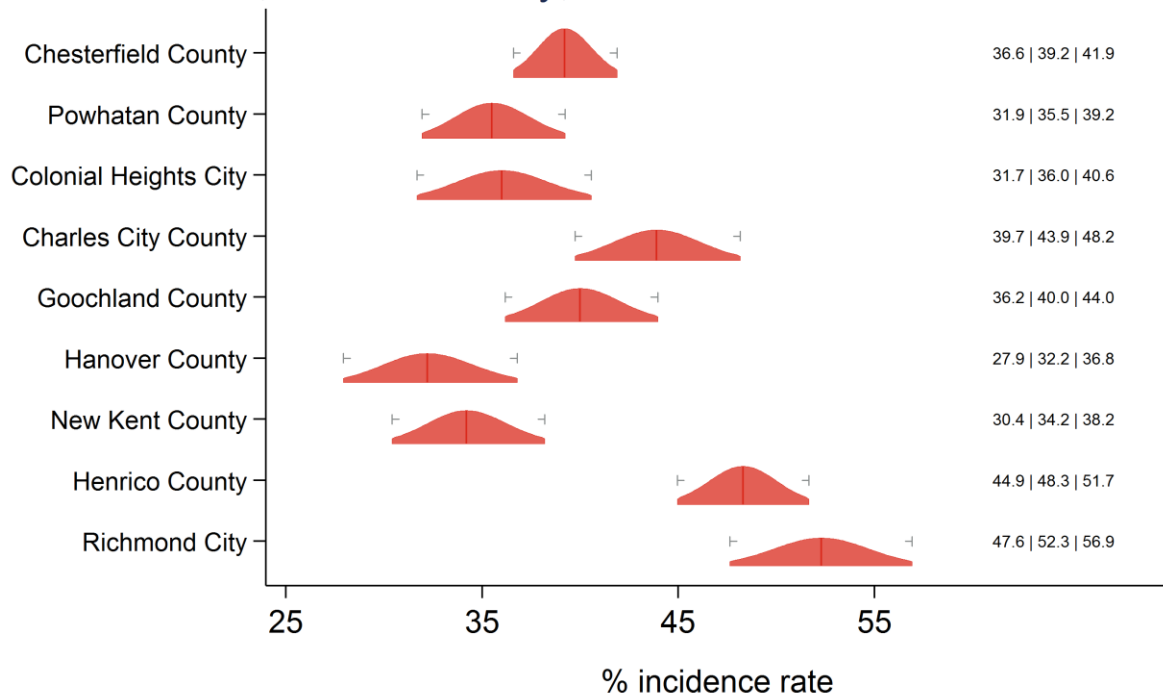
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Poor health prevents activities New River and Mount Rogers HDs



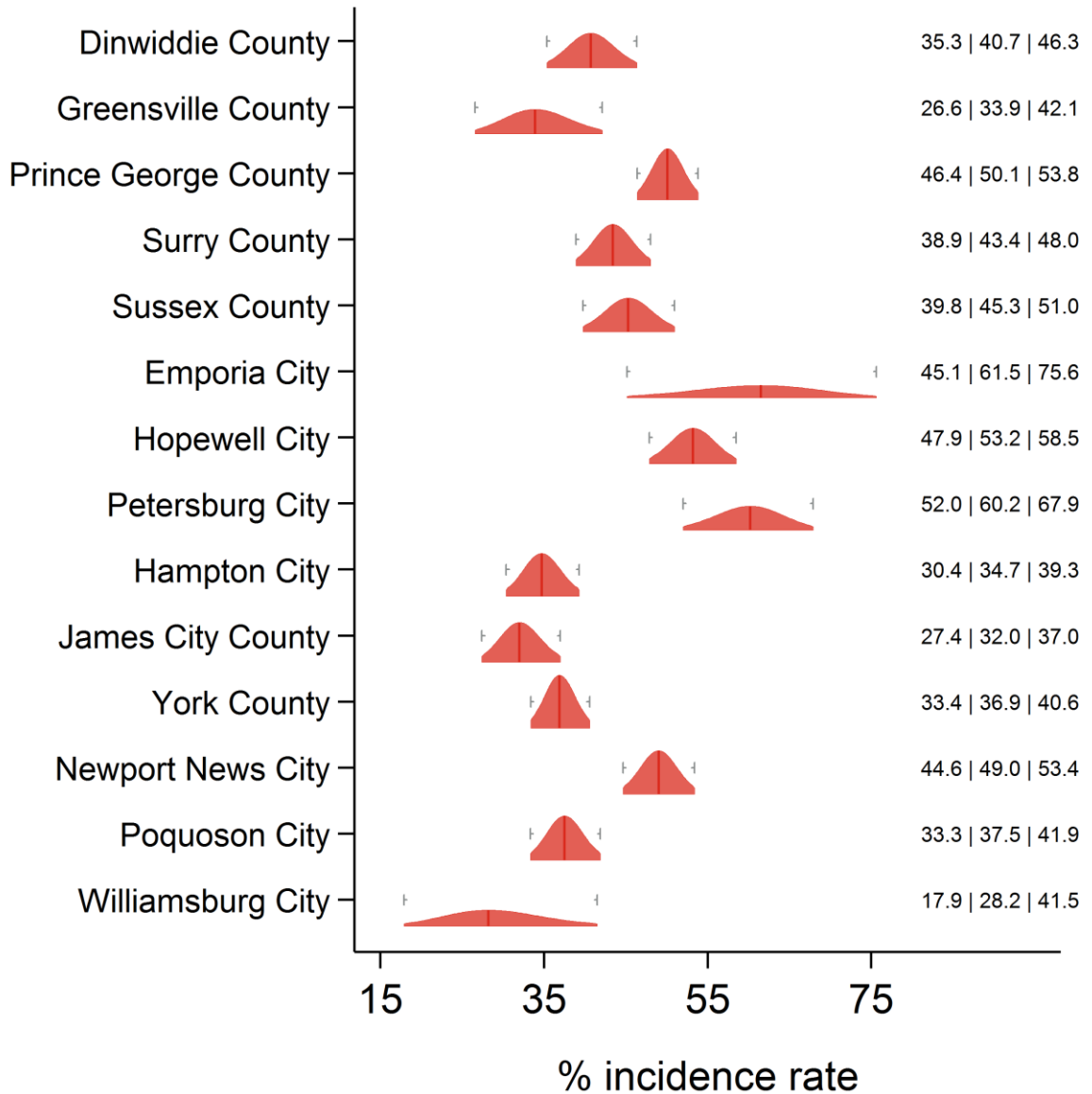
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Poor health prevents activities Chesterfield, Chickahominy, Henrico and Richmond HDs



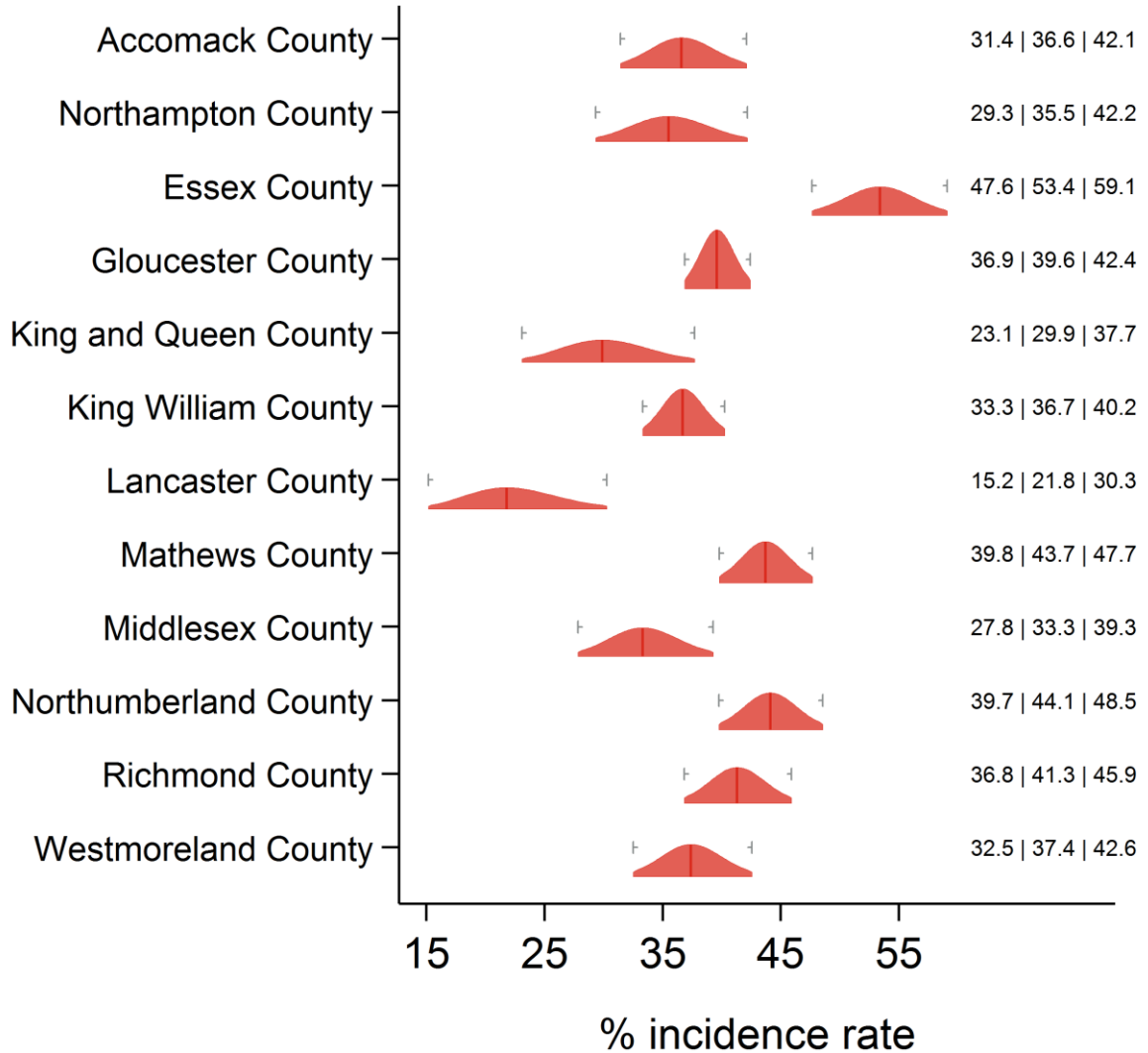
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Poor health prevents activities Crater, Peninsula and Hampton HDs



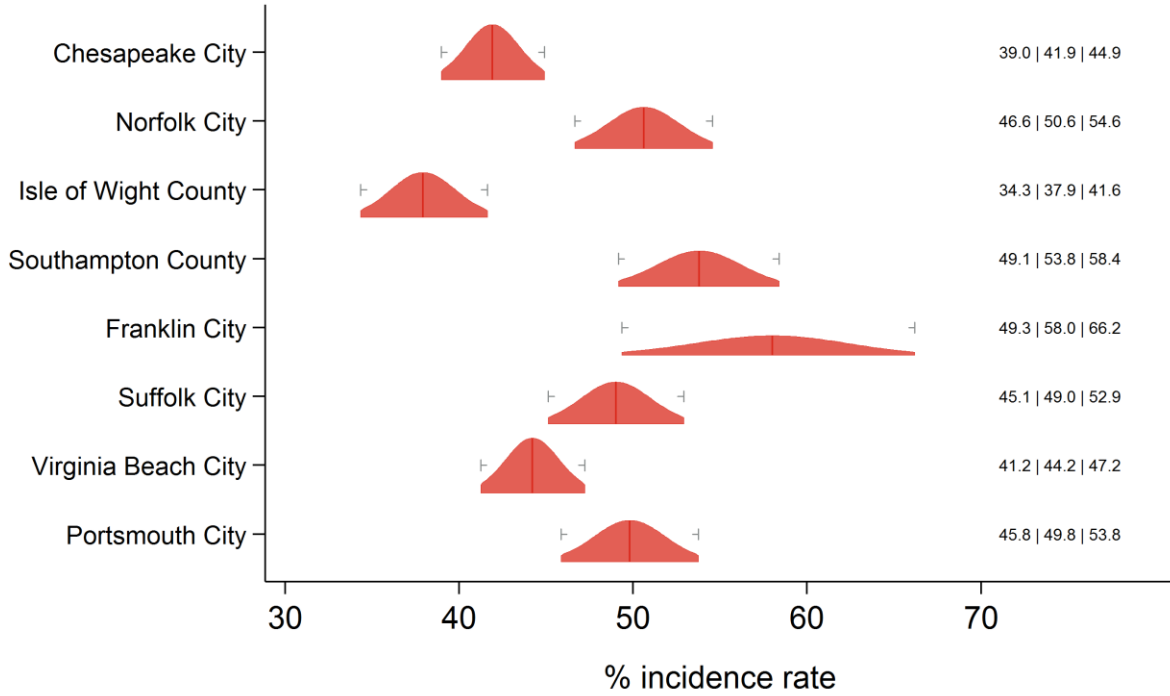
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Poor health prevents activities Eastern Shore and Three Rivers HDs



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

Poor health prevents activities 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: 53 areas.

Direct estimate is outside the 95% SAE Wilson CI: 80 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: 129 areas.

SAE Wilson 95% CI partially overlaps with the 95% direct Wilson CI: 4 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: 130 areas.

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

Direct standard error is zero: 3 areas.

Proportion of SAE variance due to ACS sampling error: min = 0.08%; med = 7.06%; max = 29.18%.

Proportion of SAE variance due to sampling error in regression coefficient estimates: min = 17.37%; med = 87.76%; max = 98.68%.

Proportion of SAE variance due to model selection: min = 0.01%; med = 2.44%; max = 82.55%.

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