

Indicator 4: Physical Activity in the Past Month

Internal variable name: outc4_phys_activity

Definition: During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?

Predictive models

	Mixed, demos only	Logit, no area effects	Mixed with area covariates
	b/se	b/se	b/se
Outcome 4: Physical Activity in the Past Month			
NH Black vs. NH White	-0.5274*** (0.1084)	-0.5658*** (0.0974)	-0.5658*** (0.1051)
NH Asian vs. NH White	0.3578 (0.2588)	0.2495 (0.2839)	0.2495 (0.2488)
NH Other vs. NH White	0.0360 (0.1816)	-0.0019 (0.1663)	-0.0019 (0.1805)
Hispanic vs. NH White	-0.5636** (0.1715)	-0.6184*** (0.1663)	-0.6184** (0.1837)
Female	-0.0884 (0.0605)	-0.0901 (0.0730)	-0.0901 (0.0600)
Age 18-34 vs. 65+	0.7264*** (0.0898)	0.7118*** (0.1062)	0.7118*** (0.0910)
Age 35-44 vs. 65+	0.2543 (0.1405)	0.2344* (0.1142)	0.2344 (0.1405)
Age 45-54 vs. 65+	0.2754** (0.0857)	0.2635** (0.1003)	0.2635** (0.0864)
Age 55-64 vs. 65+	0.2046** (0.0749)	0.2050* (0.0887)	0.2050** (0.0758)
% education Bachelor+, population 25+ y/o		0.0195*** (0.0051)	0.0195*** (0.0038)
% speaking English less than very well		-0.0845*** (0.0234)	-0.0845*** (0.0229)
% Hispanic among adults 65+		0.0943** (0.0333)	0.0943*** (0.0266)
% with disability		0.0653** (0.0207)	0.0653*** (0.0185)
VA BRFSS 2014 SAE outc12_copd		-6.1027** (2.1464)	-6.1027** (1.9701)
% NH minority among adults 18 to 64		0.0116** (0.0039)	0.0116** (0.0038)
Hodgkin Lymphoma All Rate		0.0167 (0.0205)	0.0167 (0.0250)

c.ACS_pct_NHmin_18to64#c.HodgkinLymphomaAllRate		0.0001 (0.0006)	0.0001 (0.0008)
% HHs with children: non family		-0.1442 (0.5970)	-0.1442 (0.3937)
VA BRFSS 2014 SAE outc29_pay_mortgage		-2.7799 (1.6820)	-2.7799 (1.5948)
c.ACS_pct_kids_nonfamily#c.VA14SAE_outc29_pay_mortgage		0.0050 (1.1807)	0.0050 (0.7735)
Intercept	0.8282*** (0.0870)	1.1492 (0.8758)	1.1492 (0.8712)
Area effect variance	0.0858* (0.0394)		0.0000 (0.0000)

Number of alternative models used to estimate model error = 14.

Results

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Augusta County	51015	62.2%	(49.5%, 73.5%)	71.2%	(66.6%, 75.4%)
Bath County	51017	100.0%	(60.1%, 100.0%)	68.5%	(38.2%, 88.5%)
Caroline County	51033	72.2%	(42.4%, 90.2%)	66.7%	(63.1%, 70.1%)
Clarke County	51043	54.3%	(27.1%, 79.2%)	49.0%	(39.5%, 58.5%)
Culpeper County	51047	55.9%	(38.6%, 71.9%)	62.3%	(57.5%, 66.8%)
Fauquier County	51061	72.1%	(55.2%, 84.5%)	69.7%	(65.7%, 73.4%)
Frederick County	51069	72.1%	(57.9%, 82.9%)	68.4%	(64.2%, 72.4%)
Highland County	51091	31.4%	(6.1%, 76.4%)	60.7%	(47.8%, 72.3%)
King George County	51099	84.0%	(47.5%, 93.2%)	74.6%	(70.8%, 78.0%)
Madison County	51113	69.4%	(39.1%, 88.9%)	62.7%	(56.5%, 68.5%)
Orange County	51137	61.2%	(40.7%, 78.4%)	65.7%	(62.6%, 68.6%)
Page County	51139	59.3%	(34.0%, 80.4%)	54.0%	(49.4%, 58.5%)
Rappahannock County	51157	92.3%	(63.0%, 96.9%)	64.1%	(43.0%, 80.9%)
Rockbridge County	51163	79.6%	(60.7%, 90.8%)	73.0%	(67.9%, 77.5%)
Rockingham County	51165	66.2%	(53.9%, 76.6%)	67.9%	(62.8%, 72.7%)
Shenandoah County	51171	78.7%	(61.7%, 89.4%)	62.4%	(57.1%, 67.5%)
Spotsylvania County	51177	62.8%	(49.0%, 74.8%)	66.1%	(62.6%, 69.3%)
Stafford County	51179	84.3%	(74.6%, 90.8%)	77.3%	(73.6%, 80.7%)
Warren County	51187	72.8%	(53.9%, 86.0%)	69.8%	(65.3%, 74.0%)
Buena Vista City	51530	72.9%	(27.8%, 95.0%)	45.3%	(32.1%, 59.2%)
Fredericksburg City	51630	85.1%	(65.7%, 94.5%)	75.6%	(71.9%, 79.0%)
Harrisonburg City	51660	70.1%	(31.4%, 92.3%)	63.7%	(58.4%, 68.6%)
Lexington City	51678	100.0%	(3.7%, 100.0%)	83.3%	(78.7%, 87.1%)
Staunton City	51790	91.6%	(49.1%, 97.9%)	71.9%	(68.0%, 75.6%)
Waynesboro City	51820	60.9%	(25.2%, 87.8%)	65.9%	(62.3%, 69.4%)
Winchester City	51840	88.7%	(29.5%, 97.1%)	59.6%	(45.4%, 72.3%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Albemarle County	51003	80.0%	(69.8%, 87.4%)	76.2%	(72.3%, 79.6%)
Alleghany County	51005	48.7%	(23.5%, 74.5%)	70.2%	(63.7%, 76.0%)
Amherst County	51009	84.5%	(63.9%, 92.1%)	64.1%	(59.5%, 68.4%)
Appomattox County	51011	56.4%	(33.8%, 76.7%)	70.0%	(66.0%, 73.8%)
Arlington City	51013	90.9%	(84.7%, 94.8%)	87.6%	(82.7%, 91.3%)
Bedford County	51019	74.7%	(64.8%, 82.6%)	73.9%	(69.8%, 77.7%)
Botetourt County	51023	86.7%	(69.7%, 94.9%)	74.9%	(69.5%, 79.5%)
Campbell County	51031	65.6%	(51.7%, 77.2%)	65.2%	(61.7%, 68.6%)
Craig County	51045	13.8%	(2.9%, 74.1%)	70.1%	(62.7%, 76.6%)
Fairfax County	51059	80.7%	(76.6%, 84.2%)	14.2%	(12.8%, 15.7%)
Fluvanna County	51065	81.9%	(64.8%, 91.7%)	74.9%	(70.2%, 79.0%)
Greene County	51079	81.6%	(54.7%, 94.2%)	68.9%	(63.9%, 73.5%)
Loudoun County	51107	78.1%	(68.8%, 85.3%)	80.2%	(76.3%, 83.6%)
Louisa County	51109	74.6%	(54.9%, 87.6%)	65.6%	(61.9%, 69.1%)
Nelson County	51125	74.1%	(34.6%, 93.9%)	61.6%	(56.1%, 66.8%)
Prince William County	51153	76.7%	(70.4%, 82.1%)	72.4%	(68.8%, 75.6%)
Roanoke County	51161	78.2%	(68.6%, 85.4%)	73.9%	(70.4%, 77.1%)
Alexandria City	51510	73.7%	(60.9%, 83.5%)	77.1%	(72.4%, 81.2%)
Charlottesville City	51540	77.3%	(56.3%, 90.0%)	77.4%	(73.5%, 80.9%)
Covington City	51580	100.0%	(3.6%, 100.0%)	80.7%	(69.3%, 88.5%)
Fairfax City	51600	74.3%	(59.7%, 85.0%)	73.8%	(68.3%, 78.6%)
Falls Church City	51610	95.5%	(69.1%, 97.6%)	83.9%	(78.8%, 87.9%)
Lynchburg City	51680	68.5%	(55.1%, 79.3%)	74.3%	(70.9%, 77.5%)
Manassas City	51683	59.5%	(23.8%, 87.3%)	64.5%	(56.0%, 72.2%)
Manassas Park City	51685	88.6%	(19.8%, 98.3%)	66.7%	(55.4%, 76.4%)
Salem City	51775	80.8%	(48.6%, 94.9%)	65.4%	(59.7%, 70.7%)

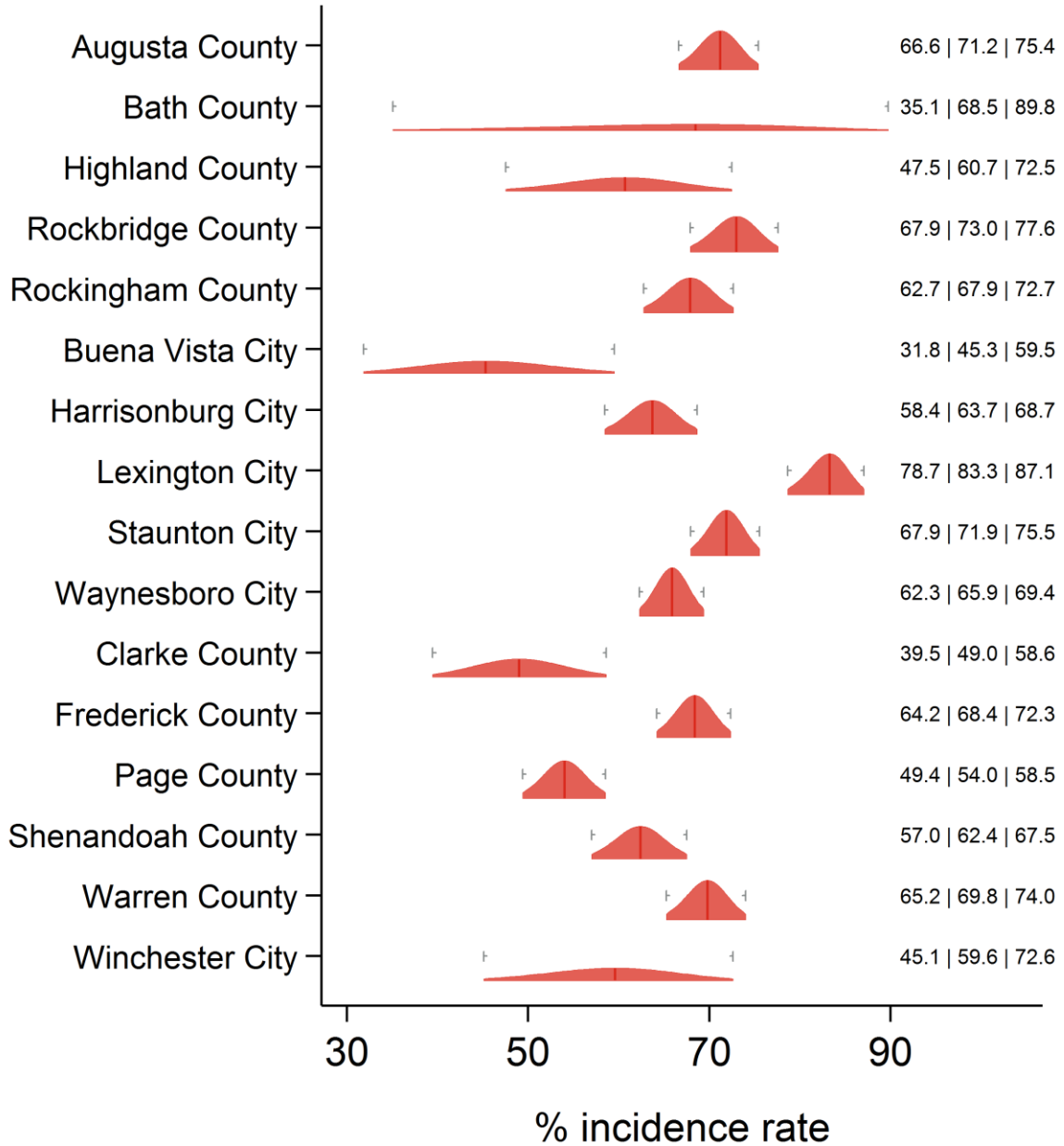
County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Bland County	51021	53.1%	(25.6%, 78.8%)	66.2%	(61.0%, 71.0%)
Buchanan County	51027	69.4%	(49.2%, 84.1%)	58.1%	(51.8%, 64.2%)
Carroll County	51035	56.6%	(35.1%, 75.9%)	57.7%	(52.4%, 62.8%)
Dickenson County	51051	83.7%	(61.3%, 94.3%)	66.2%	(59.5%, 72.3%)
Floyd County	51063	80.0%	(59.3%, 91.6%)	66.9%	(61.8%, 71.7%)
Franklin County	51067	61.7%	(42.2%, 78.0%)	64.1%	(59.7%, 68.3%)
Giles County	51071	64.0%	(44.6%, 79.7%)	70.1%	(64.1%, 75.5%)
Grayson County	51077	54.0%	(28.9%, 77.1%)	46.8%	(40.1%, 53.7%)
Henry County	51089	69.1%	(52.8%, 81.8%)	61.2%	(57.0%, 65.3%)
Lee County	51105	77.7%	(52.3%, 91.7%)	65.0%	(56.7%, 72.5%)
Montgomery County	51121	81.5%	(69.6%, 89.5%)	74.4%	(70.0%, 78.3%)
Patrick County	51141	54.4%	(26.2%, 80.0%)	56.0%	(51.2%, 60.7%)
Pittsylvania County	51143	65.6%	(54.5%, 75.3%)	62.7%	(59.4%, 65.9%)
Pulaski County	51155	48.4%	(29.0%, 68.3%)	68.2%	(62.6%, 73.3%)
Russell County	51167	65.1%	(44.7%, 81.2%)	66.5%	(60.8%, 71.7%)
Scott County	51169	42.1%	(23.7%, 63.1%)	53.5%	(46.3%, 60.5%)
Smyth County	51173	66.5%	(41.6%, 84.7%)	65.1%	(60.3%, 69.6%)
Tazewell County	51185	80.0%	(66.4%, 89.0%)	70.6%	(64.7%, 75.8%)
Washington County	51191	66.6%	(51.2%, 79.2%)	66.9%	(62.9%, 70.7%)
Wise County	51195	58.5%	(43.0%, 72.5%)	57.7%	(52.0%, 63.2%)
Wythe County	51197	62.4%	(41.0%, 79.8%)	64.4%	(58.6%, 69.8%)
Bristol City	51520	72.0%	(13.9%, 97.6%)	73.3%	(68.6%, 77.5%)
Danville City	51590	89.3%	(66.9%, 95.2%)	73.3%	(56.3%, 85.4%)
Galax City	51640	60.0%	(7.9%, 96.3%)	68.4%	(56.7%, 78.1%)
Martinsville City	51690	51.7%	(14.9%, 86.7%)	75.4%	(69.5%, 80.5%)
Norton City	51720	37.3%	(6.3%, 84.0%)	75.4%	(42.7%, 92.7%)
Radford City	51750	65.5%	(20.3%, 93.4%)	81.0%	(74.0%, 86.5%)
Roanoke City	51770	61.3%	(47.9%, 73.2%)	62.9%	(58.4%, 67.3%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Amelia County	51007	61.2%	(26.2%, 87.5%)	61.6%	(55.5%, 67.4%)
Brunswick County	51025	60.9%	(35.0%, 81.8%)	67.1%	(60.3%, 73.2%)
Buckingham County	51029	42.7%	(23.7%, 64.2%)	47.8%	(38.2%, 57.6%)
Charles City County	51036	69.3%	(21.7%, 94.1%)	66.3%	(59.8%, 72.2%)
Charlotte County	51037	81.6%	(63.9%, 91.7%)	70.1%	(63.8%, 75.8%)
Chesterfield County	51041	73.8%	(65.6%, 80.7%)	73.7%	(71.5%, 75.7%)
Cumberland County	51049	68.9%	(45.1%, 85.6%)	67.9%	(62.8%, 72.5%)
Dinwiddie County	51053	68.4%	(44.7%, 85.3%)	68.8%	(64.5%, 72.8%)
Goochland County	51075	90.0%	(65.4%, 95.1%)	72.2%	(68.8%, 75.3%)
Greensville County	51081	83.5%	(46.0%, 94.4%)	72.1%	(52.0%, 86.0%)
Halifax County	51083	74.1%	(58.3%, 85.4%)	65.7%	(62.0%, 69.2%)
Hanover County	51085	73.3%	(61.2%, 82.7%)	71.2%	(67.6%, 74.6%)
Henrico County	51087	74.9%	(66.8%, 81.6%)	73.9%	(70.8%, 76.8%)
Lunenburg County	51111	44.6%	(18.9%, 73.6%)	62.9%	(57.6%, 67.9%)
Mecklenburg County	51117	74.6%	(60.8%, 84.8%)	71.8%	(67.0%, 76.0%)
New Kent County	51127	87.5%	(63.8%, 96.5%)	70.2%	(66.0%, 74.2%)
Nottoway County	51135	36.5%	(15.8%, 63.7%)	64.8%	(59.5%, 69.8%)
Powhatan County	51145	84.5%	(61.5%, 92.5%)	71.4%	(66.5%, 75.8%)
Prince Edward County	51147	61.0%	(39.8%, 78.7%)	64.5%	(55.6%, 72.5%)
Prince George County	51149	67.8%	(48.6%, 82.5%)	70.6%	(66.4%, 74.5%)
Surry County	51181	79.2%	(45.6%, 94.5%)	70.5%	(66.0%, 74.5%)
Sussex County	51183	72.8%	(52.2%, 86.7%)	67.6%	(60.8%, 73.7%)
Colonial Heights City	51570	65.1%	(40.2%, 83.9%)	66.3%	(59.3%, 72.6%)
Emporia City	51595	100.0%	(8.2%, 100.0%)	67.6%	(59.8%, 74.6%)
Hopewell City	51670	77.1%	(55.1%, 90.2%)	74.2%	(66.3%, 80.8%)
Petersburg City	51730	66.7%	(46.3%, 82.3%)	69.6%	(63.3%, 75.3%)
Richmond City	51760	79.1%	(69.2%, 86.5%)	73.4%	(68.9%, 77.6%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Accomack County	51001	52.5%	(36.8%, 67.7%)	48.6%	(41.7%, 55.6%)
Essex County	51057	65.4%	(38.2%, 85.3%)	65.9%	(59.4%, 71.9%)
Gloucester County	51073	64.9%	(46.7%, 79.7%)	73.0%	(67.0%, 78.3%)
Isle of Wight County	51093	63.2%	(42.5%, 79.9%)	65.9%	(62.2%, 69.4%)
James City County	51095	83.5%	(72.7%, 90.6%)	80.1%	(76.5%, 83.3%)
King and Queen County	51097	45.6%	(15.9%, 78.9%)	66.5%	(61.6%, 71.0%)
King William County	51101	55.7%	(27.5%, 80.7%)	62.2%	(55.8%, 68.1%)
Lancaster County	51103	81.5%	(56.0%, 93.9%)	76.8%	(72.5%, 80.6%)
Mathews County	51115	87.6%	(62.7%, 94.1%)	71.1%	(63.3%, 77.8%)
Middlesex County	51119	81.3%	(58.6%, 93.1%)	77.2%	(71.3%, 82.1%)
Northampton County	51131	73.9%	(51.8%, 88.1%)	62.9%	(55.0%, 70.1%)
Northumberland County	51133	73.6%	(42.0%, 91.5%)	74.1%	(68.2%, 79.2%)
Richmond County	51159	57.1%	(30.0%, 80.5%)	56.3%	(50.7%, 61.7%)
Southampton County	51175	61.8%	(29.8%, 86.0%)	66.1%	(62.2%, 69.9%)
Westmoreland County	51193	42.7%	(17.2%, 72.6%)	52.1%	(41.7%, 62.3%)
York County	51199	74.2%	(58.4%, 85.5%)	77.5%	(74.3%, 80.5%)
Chesapeake City	51550	71.5%	(61.6%, 79.6%)	72.0%	(69.0%, 74.9%)
Franklin City	51620	83.8%	(58.6%, 93.0%)	64.2%	(55.4%, 72.1%)
Hampton City	51650	71.7%	(61.3%, 80.1%)	70.5%	(66.7%, 74.1%)
Newport News City	51700	72.2%	(61.9%, 80.6%)	73.7%	(70.4%, 76.7%)
Norfolk City	51710	70.0%	(61.5%, 77.3%)	69.2%	(66.2%, 72.0%)
Poquoson City	51735	62.0%	(17.7%, 92.5%)	73.0%	(67.9%, 77.6%)
Portsmouth City	51740	75.4%	(65.8%, 83.0%)	66.1%	(61.7%, 70.2%)
Suffolk City	51800	78.4%	(67.5%, 86.4%)	69.3%	(64.8%, 73.4%)
Virginia Beach City	51810	76.7%	(70.9%, 81.6%)	72.7%	(70.4%, 74.9%)
Williamsburg City	51830	68.5%	(25.2%, 93.4%)	76.1%	(67.2%, 83.2%)

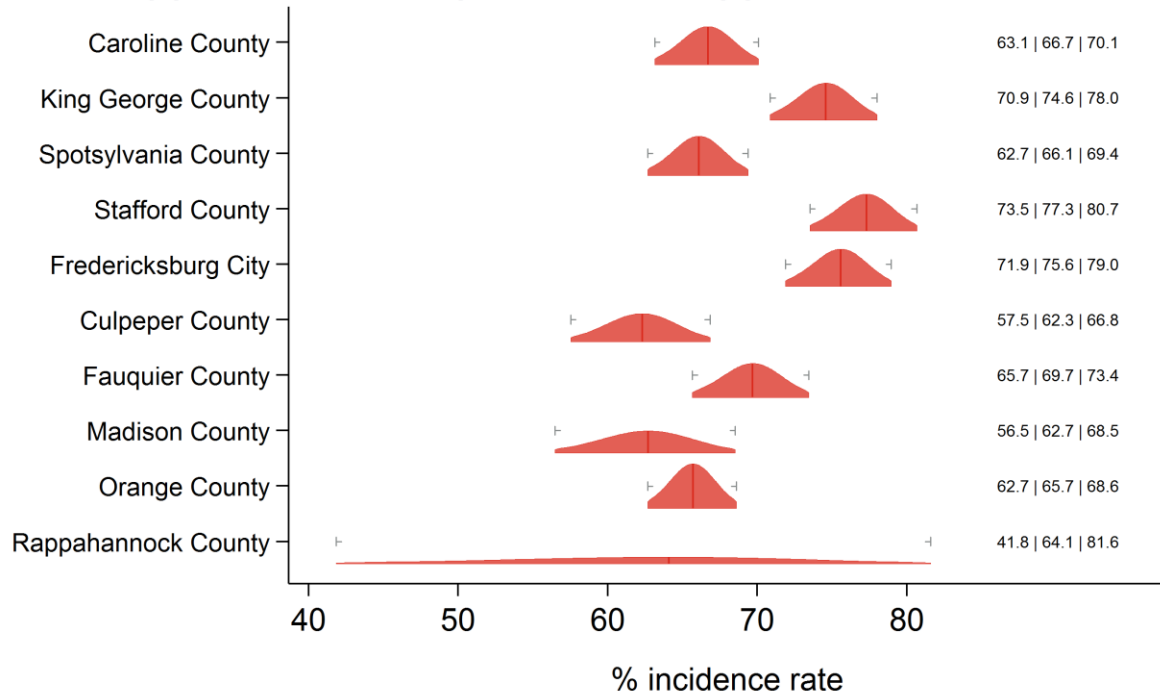
Graphical representation

Physical Activity in the Past Month Central Shenandoah and Lord Fairfax HDs



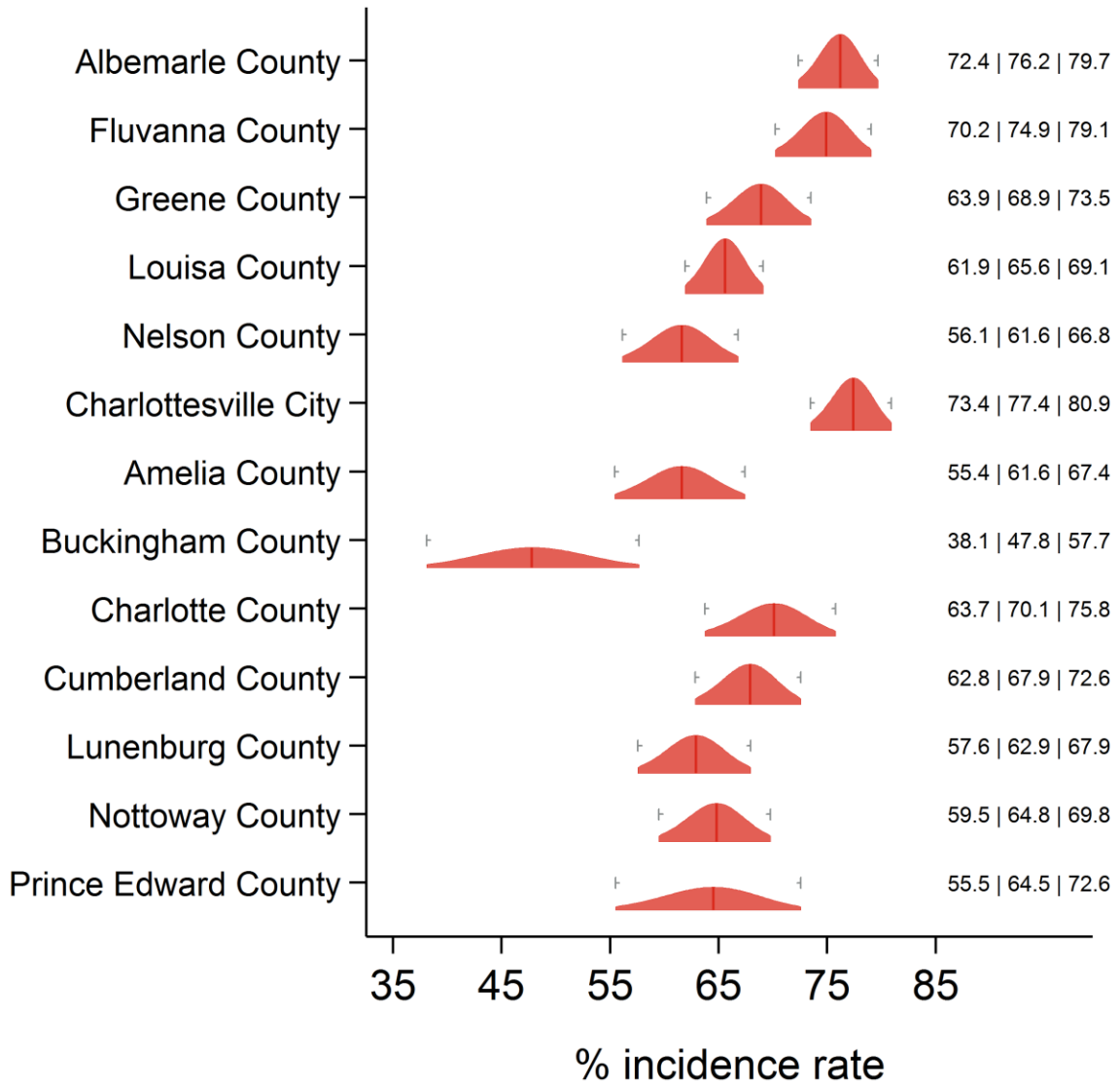
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Physical Activity in the Past Month Rappahannock/Rapidan and Rappahannock HDs



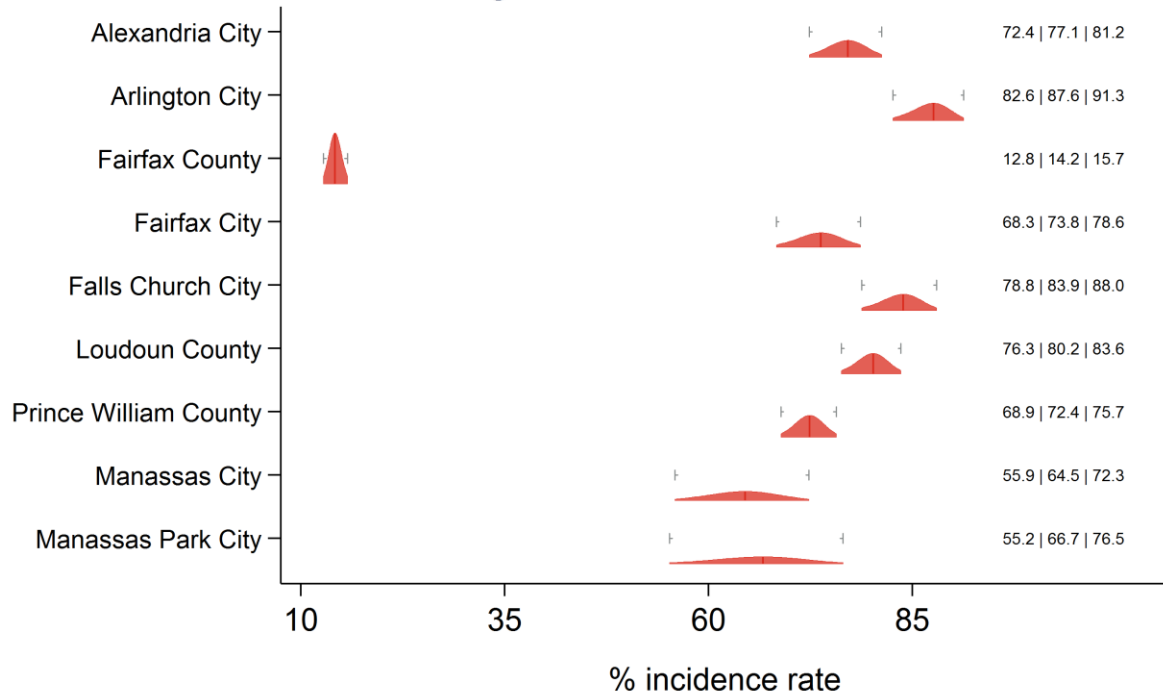
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Physical Activity in the Past Month Thomas Jefferson and Piedmont HDs



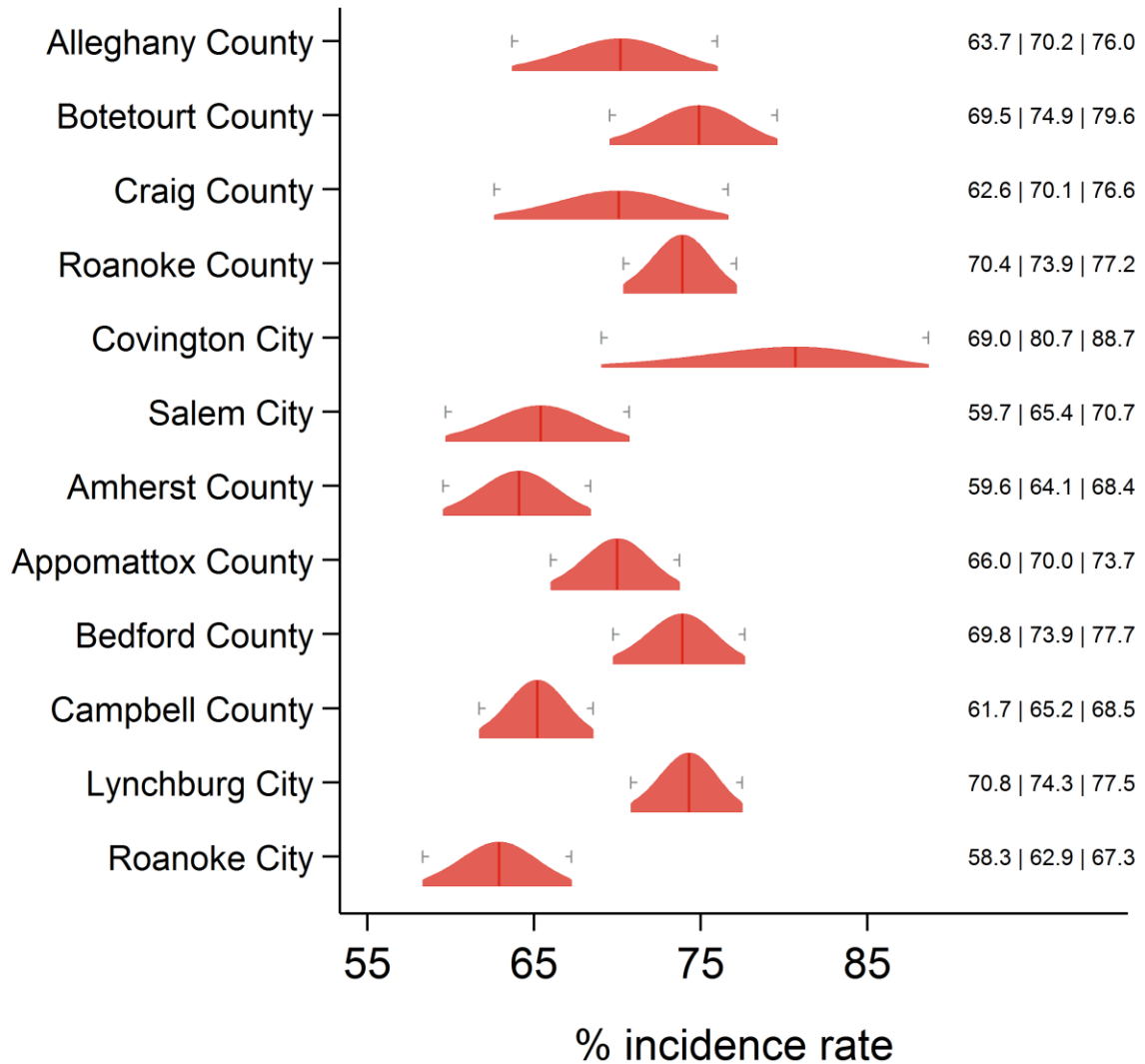
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Physical Activity in the Past Month Alexandria, Fairfax, Arlington, Loudon, Prince William HDs



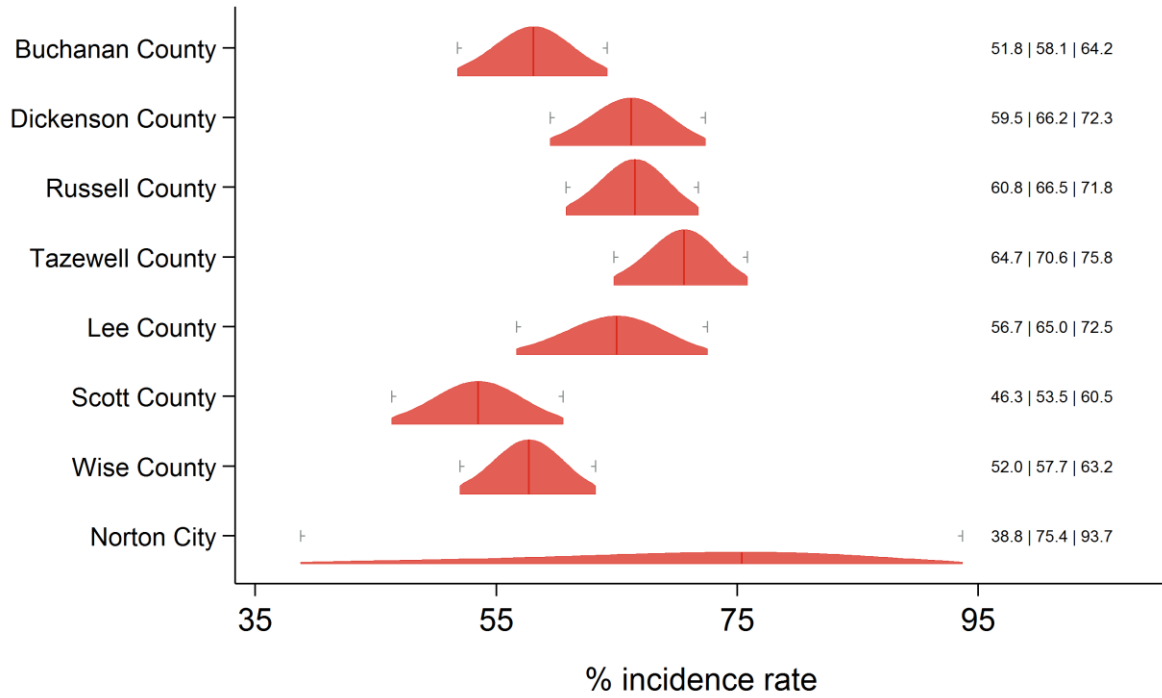
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Physical Activity in the Past Month Alleghany, Roanoke and Central Virginia HDs



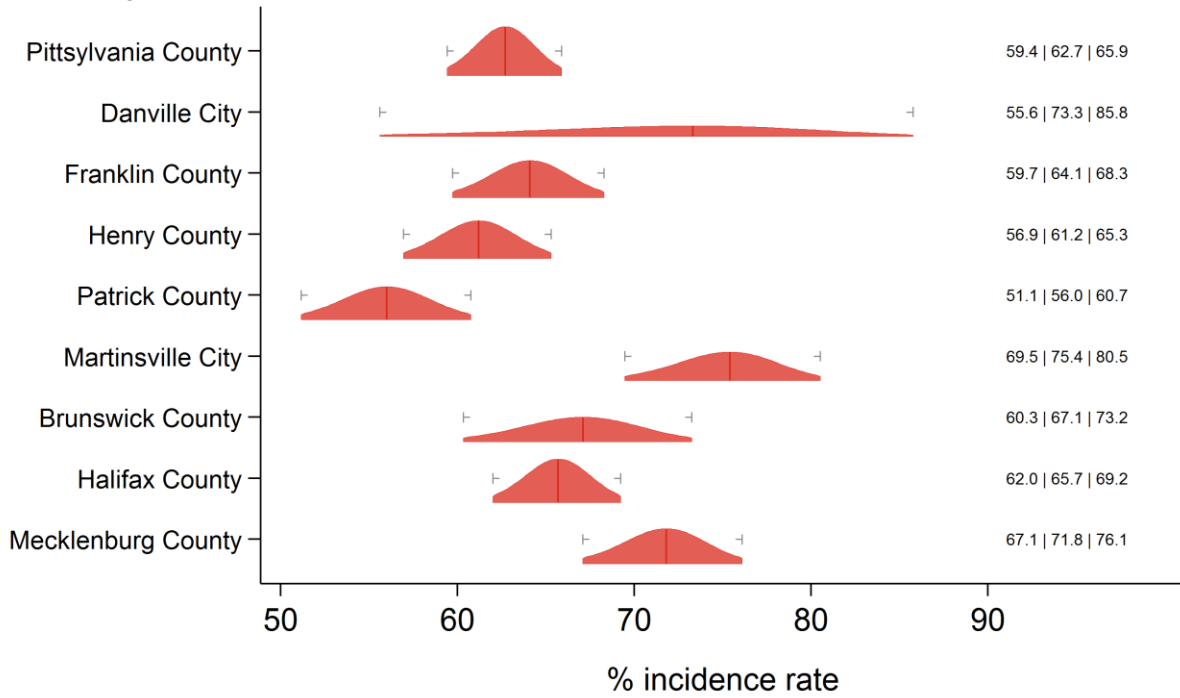
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Physical Activity in the Past Month Cumberland Plateau and Lenowisco HDs



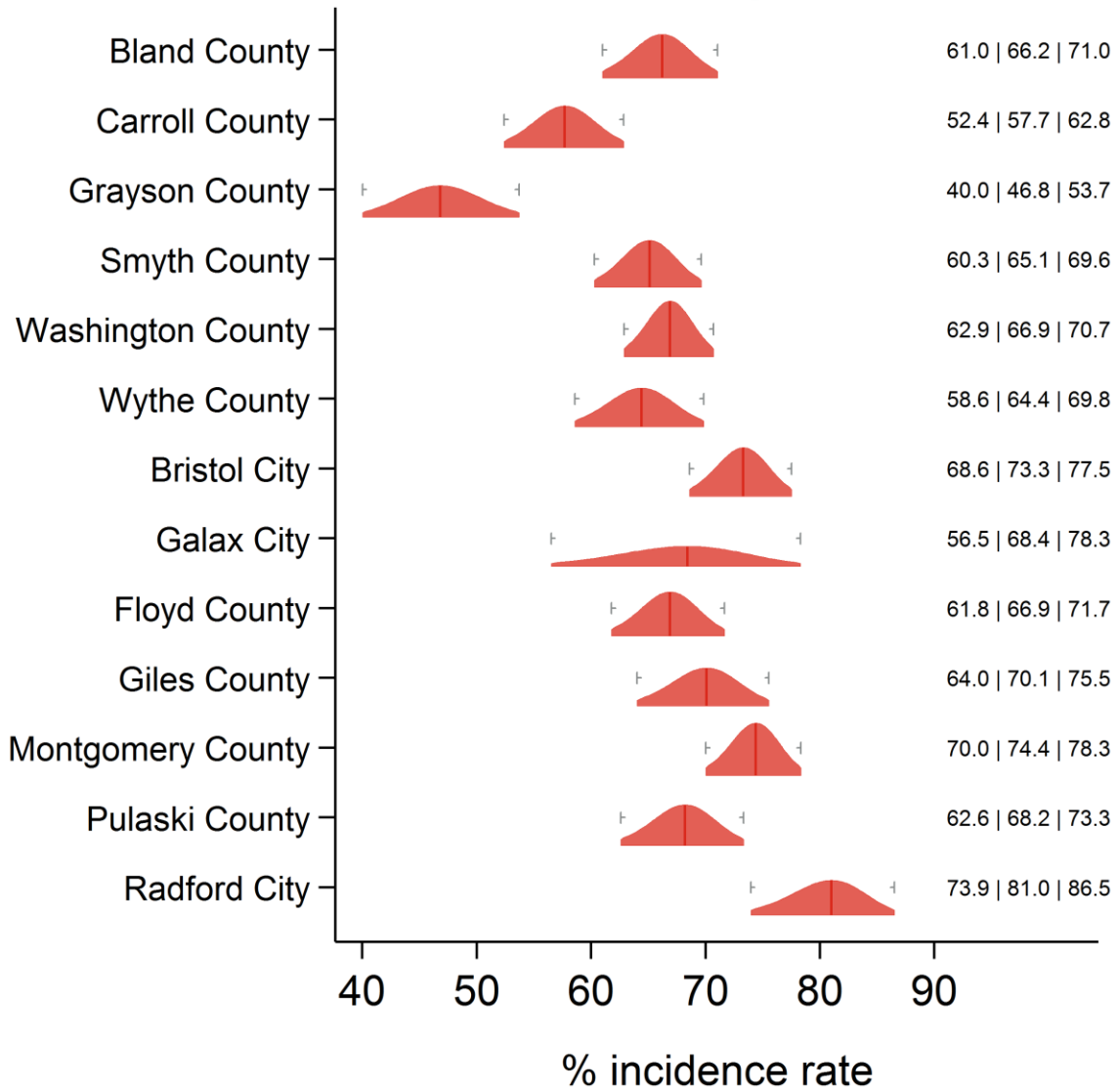
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Physical Activity in the Past Month Pittsylvania/Danville, Southside and West Piedmont HDs



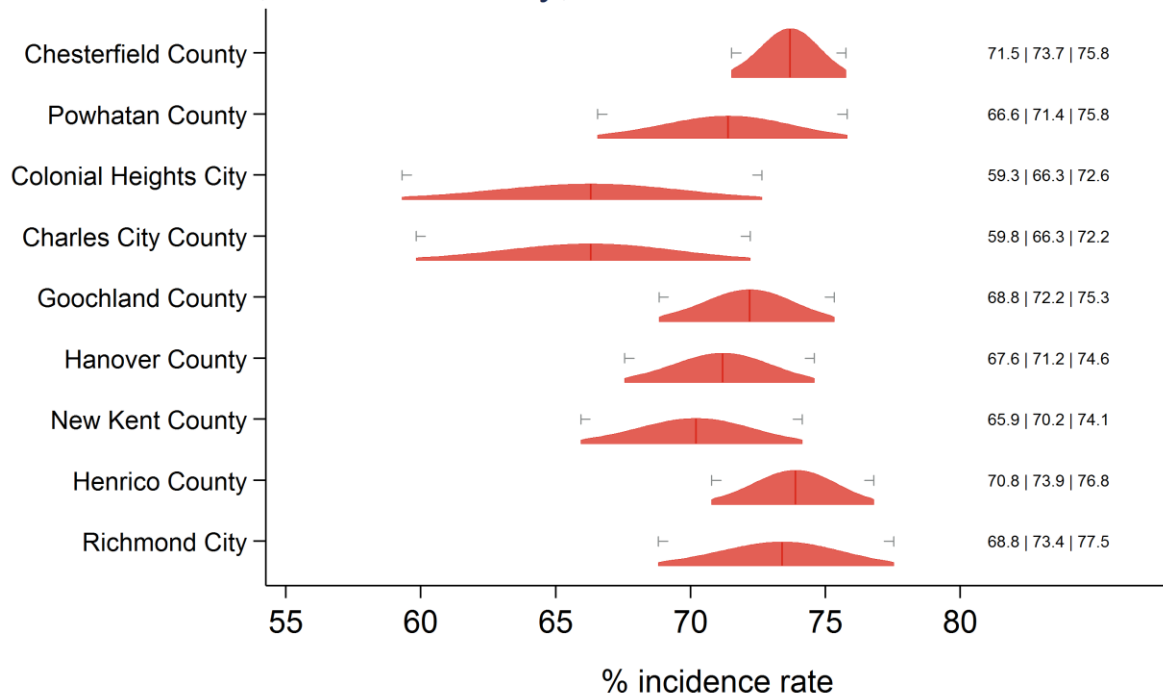
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Physical Activity in the Past Month New River and Mount Rogers HDs



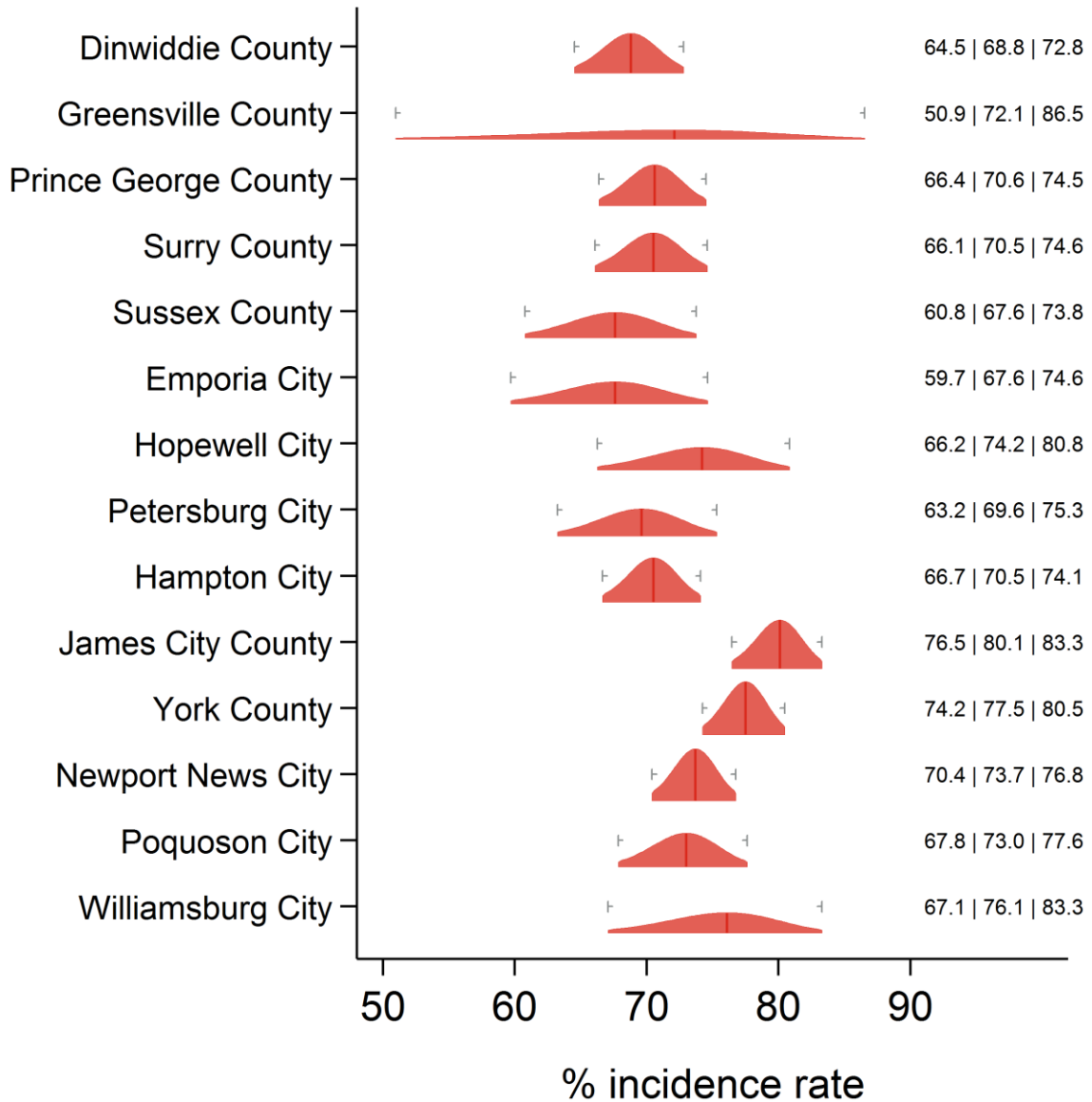
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Physical Activity in the Past Month Chesterfield, Chickahominy, Henrico and Richmond HDs



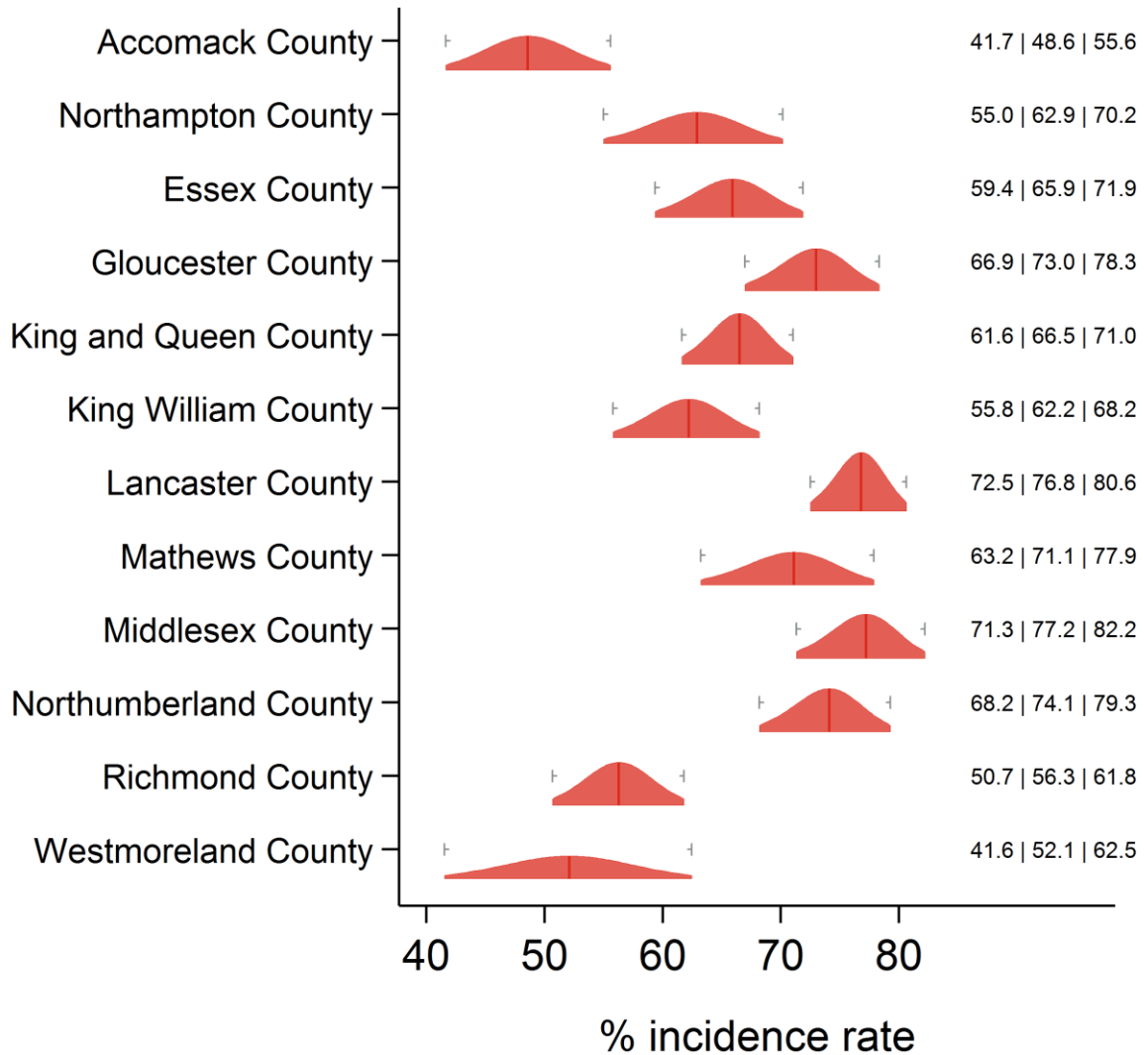
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
Gray markers: 95% confidence interval

Physical Activity in the Past Month Crater, Peninsula and Hampton HDs



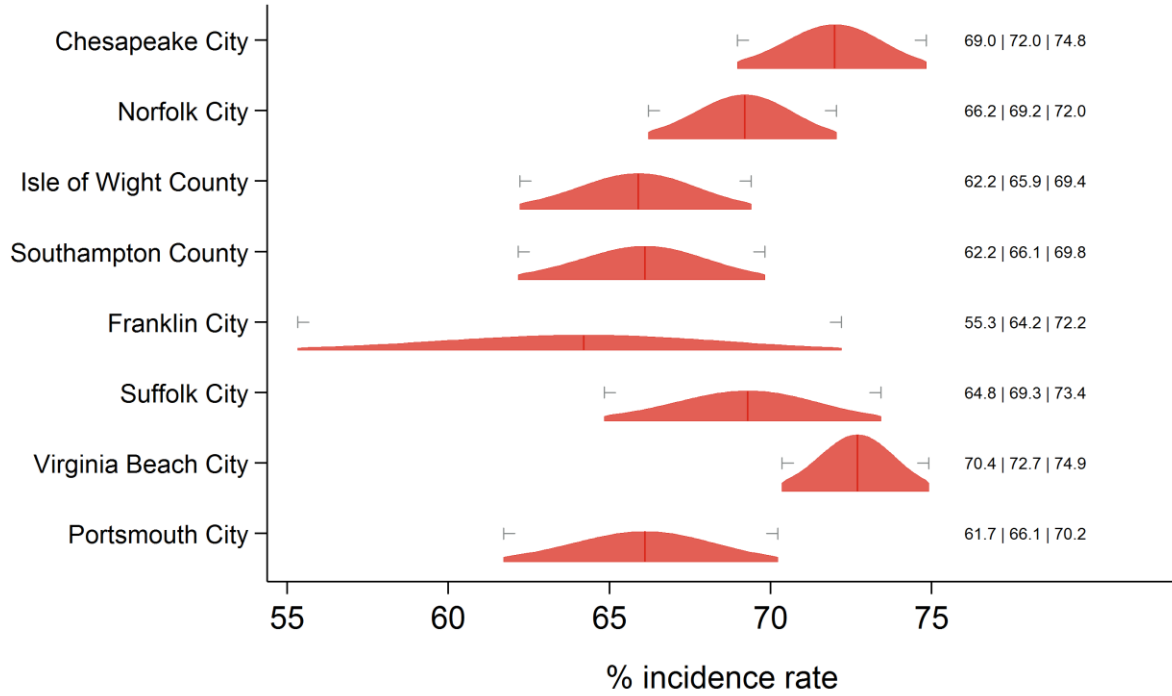
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Physical Activity in the Past Month Eastern Shore and Three Rivers HDs



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

Physical Activity in the Past Month 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: 55 areas.

Direct estimate is outside the 95% SAE Wilson CI: 78 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: 109 areas.

SAE Wilson 95% CI partially overlaps with the 95% direct Wilson CI: 24 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: 127 areas.

SAE standard error is greater than the (nonzero) direct standard error: 2 areas.

Direct standard error is zero: 4 areas.

Proportion of SAE variance due to ACS sampling error: min = 0.66%; med = 19.55%; max = 66.52%.

Proportion of SAE variance due to sampling error in regression coefficient estimates: min = 33.02%; med = 77.87%; max = 98.52%.

Proportion of SAE variance due to model selection: min = 0.09%; med = 1.54%; max = 10.89%.

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