

Outcome 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 White	0.0000 (.)	0.0000 (.)	0.0000 (.)
NH Black vs. NH White	-0.3851** (0.1149)	-0.3796*** (0.0949)	-0.3796** (0.1177)
NH Asian vs. NH White	0.1927 (0.1691)	0.1382 (0.2779)	0.1382 (0.1650)
NH Other vs. NH White	-0.1942 (0.1320)	-0.2052 (0.1504)	-0.2052 (0.1263)
Hispanic vs. NH White	-1.0325*** (0.1044)	-1.0861*** (0.1337)	-1.0861*** (0.1146)
SEX OF RESPONDENT=1	0.0000 (.)	0.0000 (.)	0.0000 (.)
Female	-0.2279** (0.0755)	-0.2210** (0.0725)	-0.2210** (0.0751)
Age 18-34 vs. 65+	0.7967*** (0.1218)	0.7728*** (0.1058)	0.7728*** (0.1173)
Age 35-44 vs. 65+	0.6751*** (0.1153)	0.6487*** (0.1123)	0.6487*** (0.1141)
Age 45-54 vs. 65+	0.4636*** (0.1138)	0.4419*** (0.1041)	0.4419*** (0.1115)
Age 55-64 vs. 65+	0.3660*** (0.1023)	0.3623*** (0.0921)	0.3623*** (0.1007)
65+	0.0000 (.)	0.0000 (.)	0.0000 (.)
% education Bachelor+, population 25+ y/o		1.5654 (1.2300)	1.5654 (1.4557)
VA BRFSS 2017 SAE outc28_tobacco_user		-0.6725 (0.7995)	-0.6725 (0.7583)

% of Population Under 65 Uninsured, County Rankings/Census SAHIE, 2017		-0.0250*	-0.0250*
		(0.0100)	(0.0103)
Length of life z-score, County Rankings		-0.0448	-0.0448
		(0.1431)	(0.1547)
_cons	1.0591***	1.6576**	1.6576**
	(0.0786)	(0.5292)	(0.5948)
Area effect variance			
var(_cons[FIPS_county])	0.1465**		0.0000
	(0.0499)		(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	80.5%	(71.3%, 87.3%)	74.7%	(70.4%, 78.6%)
Bath County	51017	49.2%	(19.6%, 79.3%)	72.7%	(67.8%, 77.1%)
Caroline County	51033	82.7%	(58.7%, 94.1%)	68.4%	(64.4%, 72.1%)
Clarke County	51043	100.0%	(75.7%, 100.0%)	75.7%	(72.0%, 79.0%)
Culpeper County	51047	69.1%	(49.9%, 83.4%)	73.3%	(69.4%, 76.8%)
Fauquier County	51061	77.6%	(63.7%, 87.2%)	78.5%	(75.4%, 81.3%)
Frederick County	51069	63.3%	(49.5%, 75.3%)	76.4%	(72.1%, 80.3%)
Highland County	51091	84.6%	(46.5%, 97.2%)	65.6%	(57.3%, 73.1%)
King George County	51099	91.7%	(72.5%, 96.5%)	78.1%	(74.4%, 81.4%)
Madison County	51113	83.0%	(58.8%, 92.5%)	72.5%	(69.1%, 75.6%)
Orange County	51137	91.7%	(75.8%, 96.0%)	74.0%	(70.4%, 77.3%)
Page County	51139	75.7%	(53.8%, 89.3%)	67.7%	(63.6%, 71.6%)
Rappahannock County	51157	46.6%	(15.3%, 80.8%)	76.4%	(72.3%, 80.1%)
Rockbridge County	51163	76.2%	(51.6%, 90.5%)	74.0%	(70.3%, 77.4%)
Rockingham County	51165	65.0%	(49.1%, 78.1%)	74.3%	(69.9%, 78.3%)
Shenandoah County	51171	84.6%	(71.4%, 91.2%)	73.4%	(69.1%, 77.4%)
Spotsylvania County	51177	79.5%	(70.3%, 86.4%)	76.5%	(73.6%, 79.1%)
Stafford County	51179	79.3%	(70.7%, 85.9%)	81.1%	(77.4%, 84.3%)
Warren County	51187	70.7%	(51.9%, 84.4%)	71.9%	(68.0%, 75.5%)
Buena Vista City	51530	73.3%	(18.5%, 97.1%)	67.4%	(62.0%, 72.5%)
Fredericksburg City	51630	91.7%	(74.2%, 96.4%)	75.0%	(70.6%, 78.9%)
Harrisonburg City	51660	81.4%	(49.2%, 95.2%)	76.4%	(71.5%, 80.7%)
Lexington City	51678	0.0%	(0.0%, 99.4%)	80.7%	(75.1%, 85.3%)
Staunton City	51790	60.0%	(26.6%, 86.2%)	71.7%	(67.3%, 75.7%)

Waynesboro City	51820	34.0%	(5.5%, 81.9%)	68.6%	(62.0%, 74.5%)
Winchester City	51840	78.3%	(46.3%, 93.8%)	75.4%	(71.0%, 79.4%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Albemarle County	51003	87.9%	(80.0%, 92.9%)	83.8%	(80.8%, 86.3%)
Alleghany County	51005	74.7%	(58.1%, 86.2%)	70.4%	(66.1%, 74.4%)
Amherst County	51009	75.3%	(58.3%, 86.9%)	70.2%	(66.4%, 73.8%)
Appomattox County	51011	77.7%	(60.0%, 89.0%)	64.9%	(58.1%, 71.1%)
Arlington City	51013	93.8%	(89.1%, 96.5%)	86.1%	(82.9%, 88.9%)
Bedford County	51019	79.2%	(68.2%, 87.2%)	74.7%	(71.6%, 77.5%)
Botetourt County	51023	86.6%	(71.2%, 94.4%)	78.6%	(74.3%, 82.4%)
Campbell County	51031	68.2%	(55.4%, 78.8%)	71.1%	(67.1%, 74.8%)
Craig County	51045	44.9%	(13.4%, 81.1%)	67.1%	(60.6%, 73.0%)
Fairfax County	51059	85.4%	(81.8%, 88.3%)	9.4%	(7.4%, 11.8%)
Fluvanna County	51065	63.1%	(36.4%, 83.6%)	76.4%	(72.6%, 79.8%)
Greene County	51079	69.0%	(30.8%, 91.8%)	77.9%	(72.4%, 82.5%)
Loudoun County	51107	90.5%	(85.6%, 93.9%)	85.1%	(81.3%, 88.2%)
Louisa County	51109	66.6%	(44.8%, 83.1%)	70.4%	(66.0%, 74.4%)
Nelson County	51125	58.1%	(18.3%, 89.6%)	74.8%	(71.2%, 78.0%)
Prince William County	51153	85.6%	(80.2%, 89.7%)	79.5%	(76.3%, 82.4%)
Roanoke County	51161	75.8%	(66.6%, 83.1%)	77.7%	(74.8%, 80.4%)
Alexandria City	51510	76.4%	(65.6%, 84.6%)	82.9%	(79.1%, 86.1%)
Charlottesville City	51540	88.6%	(68.0%, 96.6%)	79.5%	(74.9%, 83.5%)
Covington City	51580	60.0%	(6.7%, 96.9%)	69.6%	(50.8%, 83.5%)
Fairfax City	51600	90.9%	(78.7%, 96.4%)	82.3%	(78.3%, 85.7%)
Falls Church City	51610	66.1%	(33.6%, 88.3%)	83.6%	(78.5%, 87.7%)
Lynchburg City	51680	69.0%	(56.2%, 79.4%)	76.8%	(73.2%, 80.1%)
Manassas City	51683	57.5%	(33.1%, 78.8%)	69.5%	(64.4%, 74.2%)
Manassas Park City	51685	64.7%	(19.0%, 93.5%)	67.5%	(60.1%, 74.1%)
Salem City	51775	65.2%	(15.7%, 95.0%)	75.1%	(71.3%, 78.7%)

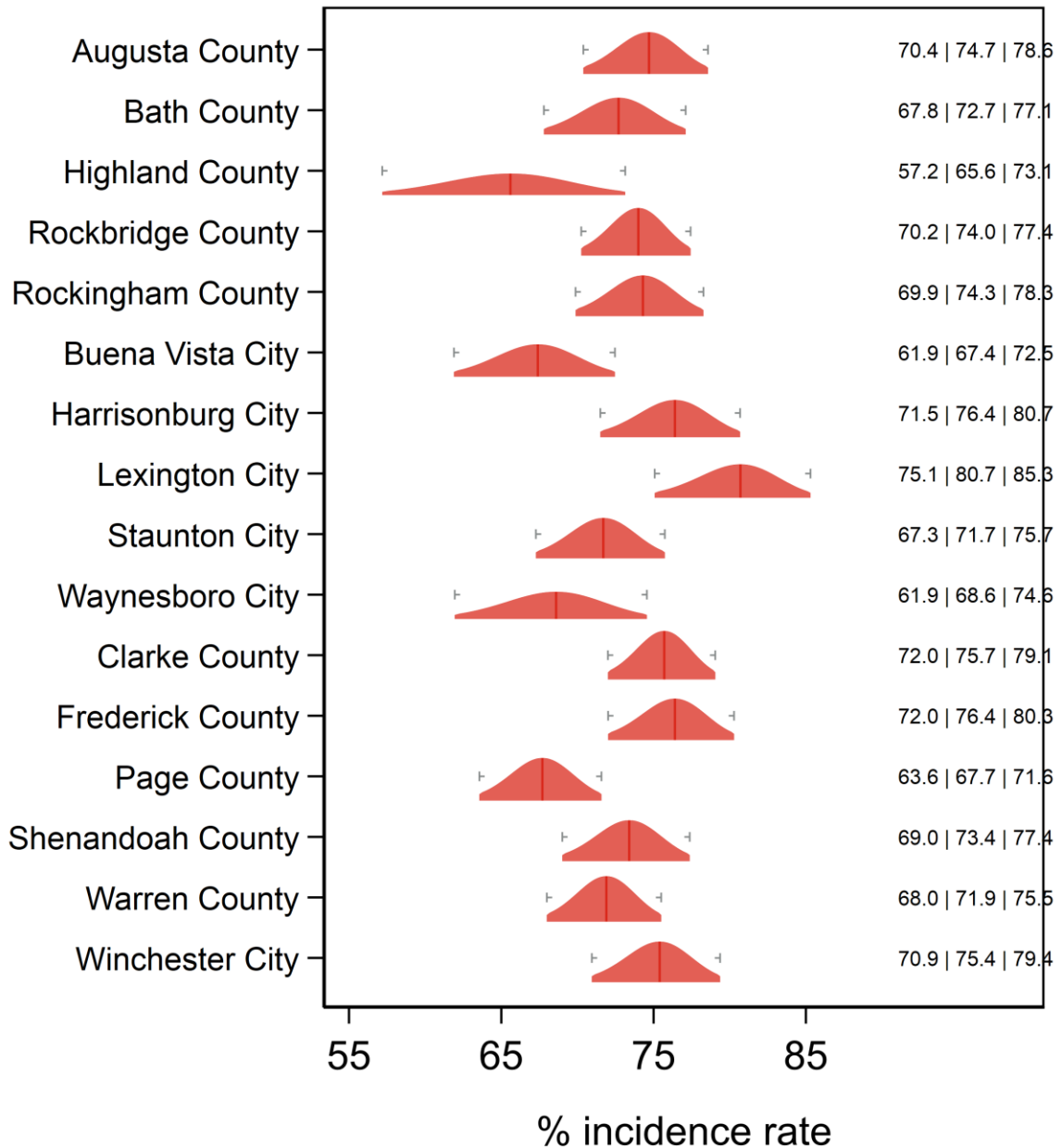
County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Bland County	51021	85.6%	(33.7%, 95.9%)	69.9%	(65.2%, 74.2%)
Buchanan County	51027	63.0%	(41.2%, 80.6%)	63.7%	(57.9%, 69.2%)
Carroll County	51035	86.9%	(68.8%, 95.2%)	72.0%	(67.2%, 76.3%)
Dickenson County	51051	53.8%	(30.1%, 75.9%)	67.8%	(60.6%, 74.2%)
Floyd County	51063	69.3%	(43.5%, 86.9%)	75.4%	(70.8%, 79.6%)
Franklin County	51067	73.6%	(57.8%, 85.0%)	70.1%	(67.2%, 72.9%)
Giles County	51071	74.5%	(47.1%, 90.5%)	73.9%	(69.9%, 77.6%)
Grayson County	51077	77.7%	(54.5%, 91.0%)	66.6%	(62.3%, 70.7%)
Henry County	51089	74.2%	(61.2%, 84.1%)	65.7%	(62.2%, 69.0%)
Lee County	51105	64.6%	(43.0%, 81.5%)	64.6%	(59.9%, 69.1%)
Montgomery County	51121	80.7%	(71.6%, 87.4%)	81.5%	(78.2%, 84.3%)
Patrick County	51141	76.4%	(50.5%, 91.1%)	62.2%	(58.1%, 66.1%)
Pittsylvania County	51143	72.3%	(61.6%, 81.0%)	67.5%	(63.5%, 71.2%)
Pulaski County	51155	55.7%	(36.8%, 73.2%)	71.2%	(67.4%, 74.7%)
Russell County	51167	64.7%	(44.0%, 81.0%)	63.6%	(58.6%, 68.3%)
Scott County	51169	59.3%	(44.5%, 72.6%)	65.4%	(59.9%, 70.6%)
Smyth County	51173	73.1%	(55.0%, 85.9%)	68.0%	(64.4%, 71.4%)
Tazewell County	51185	61.5%	(47.6%, 73.7%)	64.3%	(59.4%, 68.9%)
Washington County	51191	80.1%	(68.3%, 88.3%)	72.8%	(69.8%, 75.6%)
Wise County	51195	68.3%	(55.2%, 79.1%)	65.4%	(59.6%, 70.8%)
Wythe County	51197	67.4%	(48.9%, 81.7%)	69.3%	(66.0%, 72.4%)
Bristol City	51520	60.4%	(16.3%, 92.2%)	67.7%	(60.0%, 74.5%)
Danville City	51590	71.2%	(40.5%, 90.0%)	66.1%	(61.0%, 70.9%)
Galax City	51640	100.0%	(7.8%, 100.0%)	66.0%	(55.7%, 74.9%)
Martinsville City	51690	31.8%	(7.5%, 72.9%)	60.2%	(49.9%, 69.7%)
Norton City	51720	88.0%	(5.1%, 99.5%)	63.3%	(52.6%, 72.8%)
Radford City	51750	66.2%	(41.2%, 84.6%)	79.4%	(74.1%, 83.8%)
Roanoke City	51770	72.7%	(60.4%, 82.3%)	72.3%	(67.7%, 76.4%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Amelia County	51007	92.3%	(62.2%, 96.1%)	68.6%	(64.7%, 72.2%)
Brunswick County	51025	82.8%	(61.9%, 93.5%)	62.0%	(57.3%, 66.4%)
Buckingham County	51029	68.7%	(42.3%, 86.8%)	61.0%	(54.7%, 66.9%)
Charles City County	51036	85.4%	(17.5%, 97.7%)	62.5%	(55.8%, 68.7%)
Charlotte County	51037	78.3%	(45.9%, 93.9%)	69.2%	(62.4%, 75.2%)
Chesterfield County	51041	79.4%	(72.7%, 84.8%)	79.2%	(76.7%, 81.4%)
Cumberland County	51049	70.3%	(40.6%, 89.2%)	62.2%	(55.5%, 68.5%)
Dinwiddie County	51053	82.8%	(69.4%, 91.1%)	69.3%	(64.5%, 73.7%)
Goochland County	51075	90.1%	(66.7%, 97.6%)	80.6%	(77.4%, 83.4%)
Greensville County	51081	76.4%	(50.3%, 91.2%)	56.1%	(50.1%, 61.8%)
Halifax County	51083	67.7%	(52.6%, 79.9%)	68.1%	(64.3%, 71.6%)
Hanover County	51085	77.3%	(62.7%, 87.3%)	81.2%	(78.3%, 83.8%)
Henrico County	51087	79.8%	(72.3%, 85.7%)	79.5%	(76.6%, 82.1%)
Lunenburg County	51111	87.0%	(59.9%, 93.4%)	66.5%	(61.5%, 71.1%)
Mecklenburg County	51117	70.9%	(56.2%, 82.2%)	70.2%	(65.8%, 74.3%)
New Kent County	51127	78.3%	(56.6%, 90.9%)	74.5%	(70.0%, 78.5%)
Nottoway County	51135	73.9%	(51.3%, 88.3%)	63.6%	(58.5%, 68.4%)
Powhatan County	51145	82.3%	(55.0%, 94.6%)	75.1%	(71.2%, 78.7%)
Prince Edward County	51147	81.1%	(63.9%, 91.2%)	71.4%	(67.8%, 74.8%)
Prince George County	51149	85.5%	(71.3%, 93.3%)	71.1%	(66.3%, 75.5%)
Surry County	51181	52.9%	(16.0%, 86.9%)	70.3%	(65.2%, 74.9%)
Sussex County	51183	68.3%	(38.5%, 88.1%)	65.2%	(60.0%, 70.1%)
Colonial Heights City	51570	68.7%	(42.4%, 86.7%)	70.5%	(66.5%, 74.2%)
Emporia City	51595	91.2%	(22.2%, 98.5%)	62.8%	(58.0%, 67.3%)
Hopewell City	51670	44.8%	(21.1%, 71.1%)	66.4%	(59.7%, 72.5%)
Petersburg	51730	77.9%	(60.0%, 89.3%)	65.2%	(53.8%, 75.1%)

City					
Richmond City	51760	80.4%	(70.6%, 87.5%)	77.7%	(74.0%, 81.1%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE CI
Accomack County	51001	65.3%	(51.2%, 77.1%)	65.9%	(61.4%, 70.1%)
Essex County	51057	39.6%	(20.3%, 62.8%)	65.8%	(59.0%, 72.1%)
Gloucester County	51073	81.4%	(64.3%, 91.4%)	72.3%	(67.9%, 76.3%)
Isle of Wight County	51093	84.3%	(65.6%, 93.8%)	71.3%	(67.1%, 75.3%)
James City County	51095	83.7%	(73.5%, 90.5%)	82.2%	(79.0%, 84.9%)
King and Queen County	51097	65.6%	(20.2%, 93.5%)	66.9%	(61.0%, 72.3%)
King William County	51101	69.1%	(29.8%, 92.1%)	67.9%	(62.9%, 72.5%)
Lancaster County	51103	82.7%	(61.0%, 93.5%)	70.8%	(66.3%, 74.8%)
Mathews County	51115	70.7%	(44.4%, 88.0%)	72.4%	(68.7%, 75.9%)
Middlesex County	51119	93.6%	(67.2%, 96.8%)	70.7%	(66.0%, 74.9%)
Northampton County	51131	65.8%	(43.5%, 82.8%)	70.0%	(65.7%, 73.9%)
Northumberland County	51133	79.3%	(58.2%, 91.3%)	75.2%	(71.2%, 78.8%)
Richmond County	51159	79.0%	(62.2%, 89.5%)	68.8%	(64.0%, 73.2%)
Southampton County	51175	49.7%	(27.6%, 72.0%)	65.2%	(59.7%, 70.3%)
Westmoreland County	51193	66.3%	(44.1%, 83.0%)	67.0%	(62.3%, 71.5%)
York County	51199	87.6%	(75.4%, 94.2%)	81.8%	(78.5%, 84.8%)
Chesapeake City	51550	78.2%	(71.5%, 83.6%)	77.2%	(74.5%, 79.6%)
Franklin City	51620	73.8%	(29.1%, 95.1%)	64.9%	(55.0%, 73.6%)
Hampton City	51650	77.6%	(69.4%, 84.1%)	74.1%	(69.9%, 77.9%)
Newport News City	51700	79.7%	(71.6%, 85.9%)	74.5%	(70.9%, 77.8%)
Norfolk City	51710	75.3%	(67.6%, 81.6%)	76.1%	(72.9%, 79.1%)
Poquoson City	51735	89.0%	(51.2%, 98.4%)	74.8%	(69.7%, 79.4%)
Portsmouth City	51740	70.8%	(60.8%, 79.1%)	71.0%	(66.7%, 74.9%)
Suffolk City	51800	70.9%	(56.2%, 82.3%)	73.5%	(69.8%, 76.8%)
Virginia Beach City	51810	78.1%	(72.1%, 83.1%)	80.1%	(77.6%, 82.4%)
Williamsburg City	51830	70.8%	(31.3%, 92.8%)	76.8%	(69.5%, 82.8%)

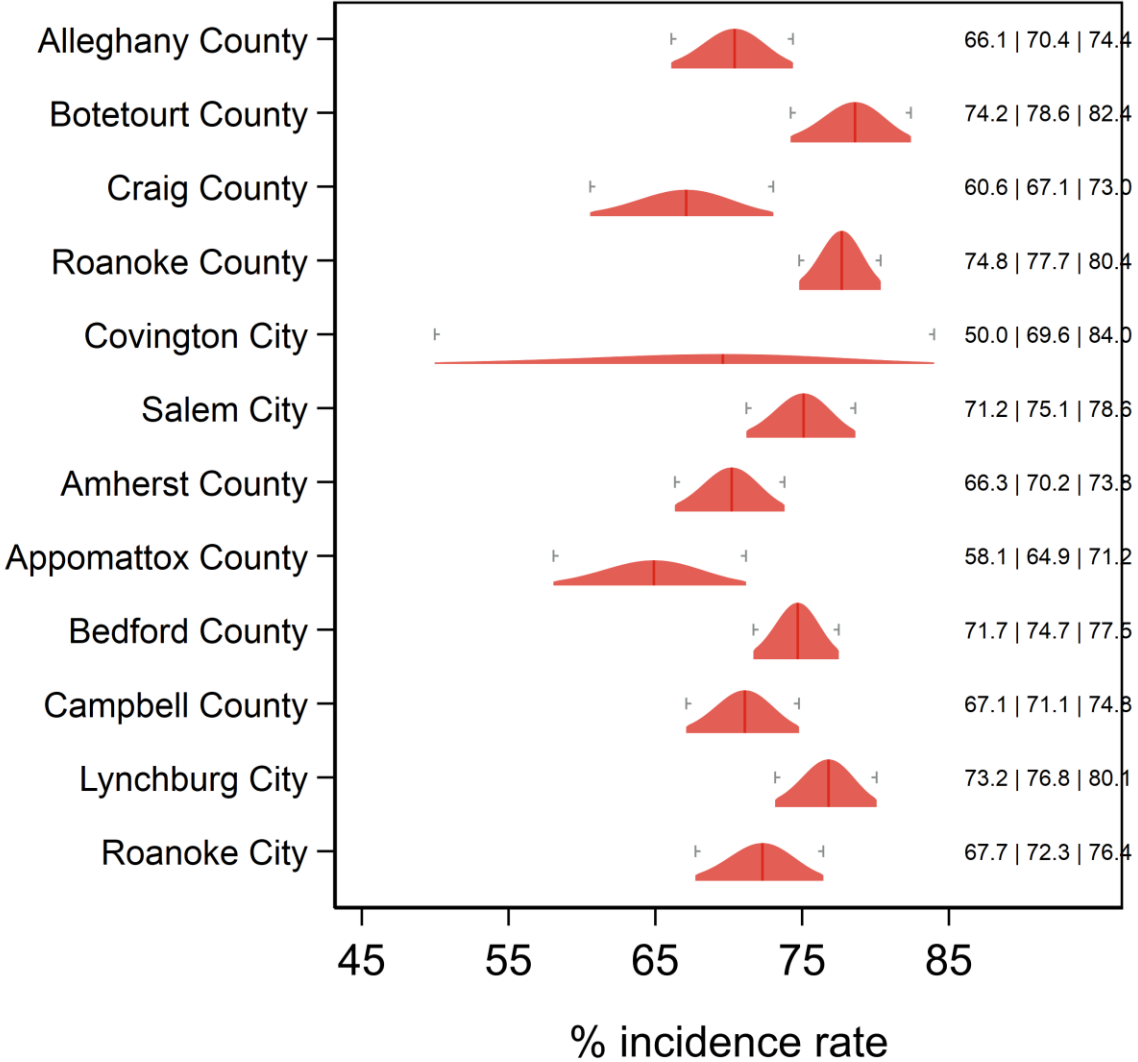
Physical Activity in the Past Month Central Shenandoah and Lord Fairfax HDs



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

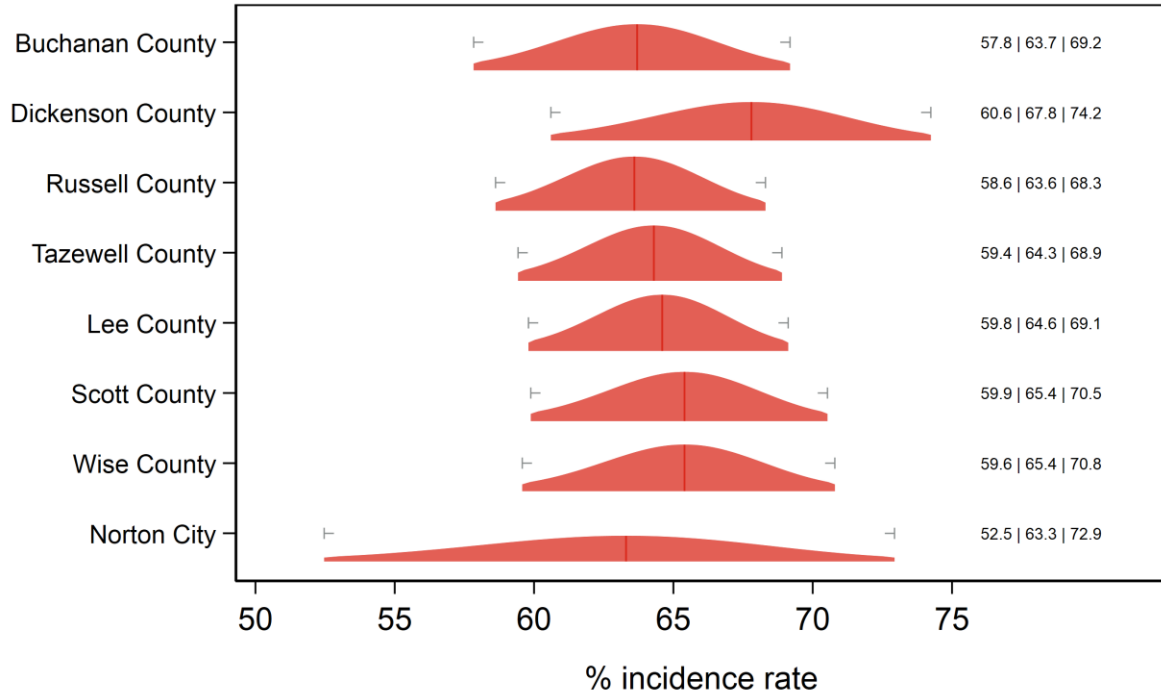
Physical Activity in the Past Month

Alleghany, Roanoke and Central Virginia HDs



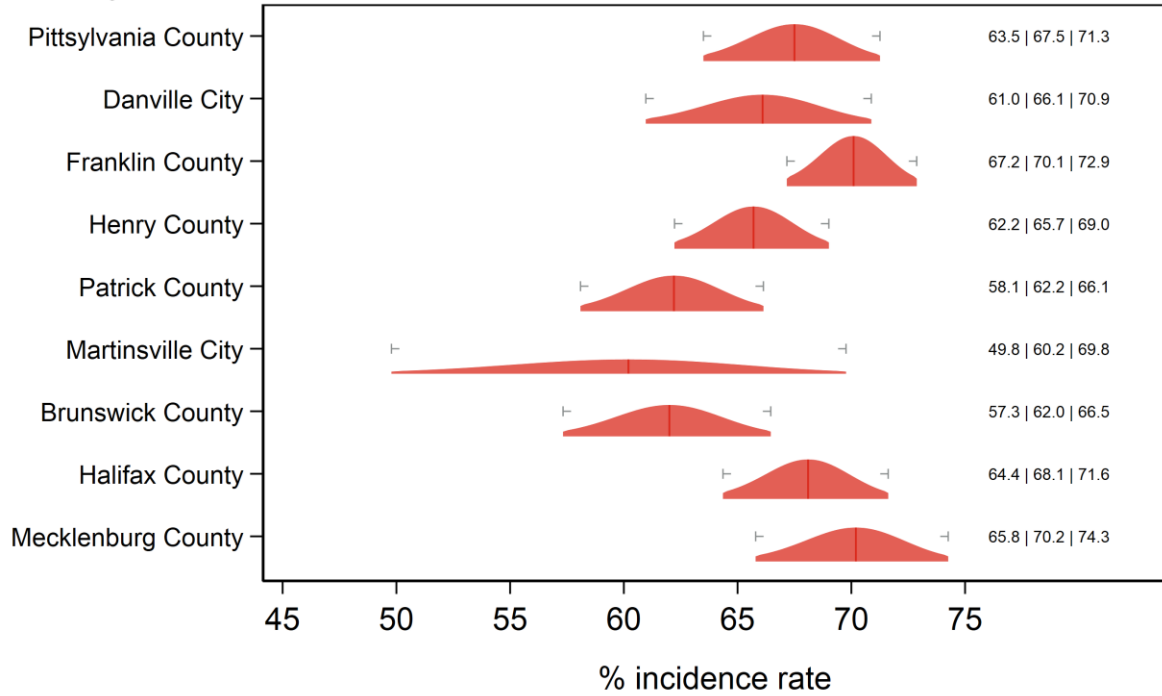
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

Physical Activity in the Past Month Cumberland Plateau and Lenowisco HDs



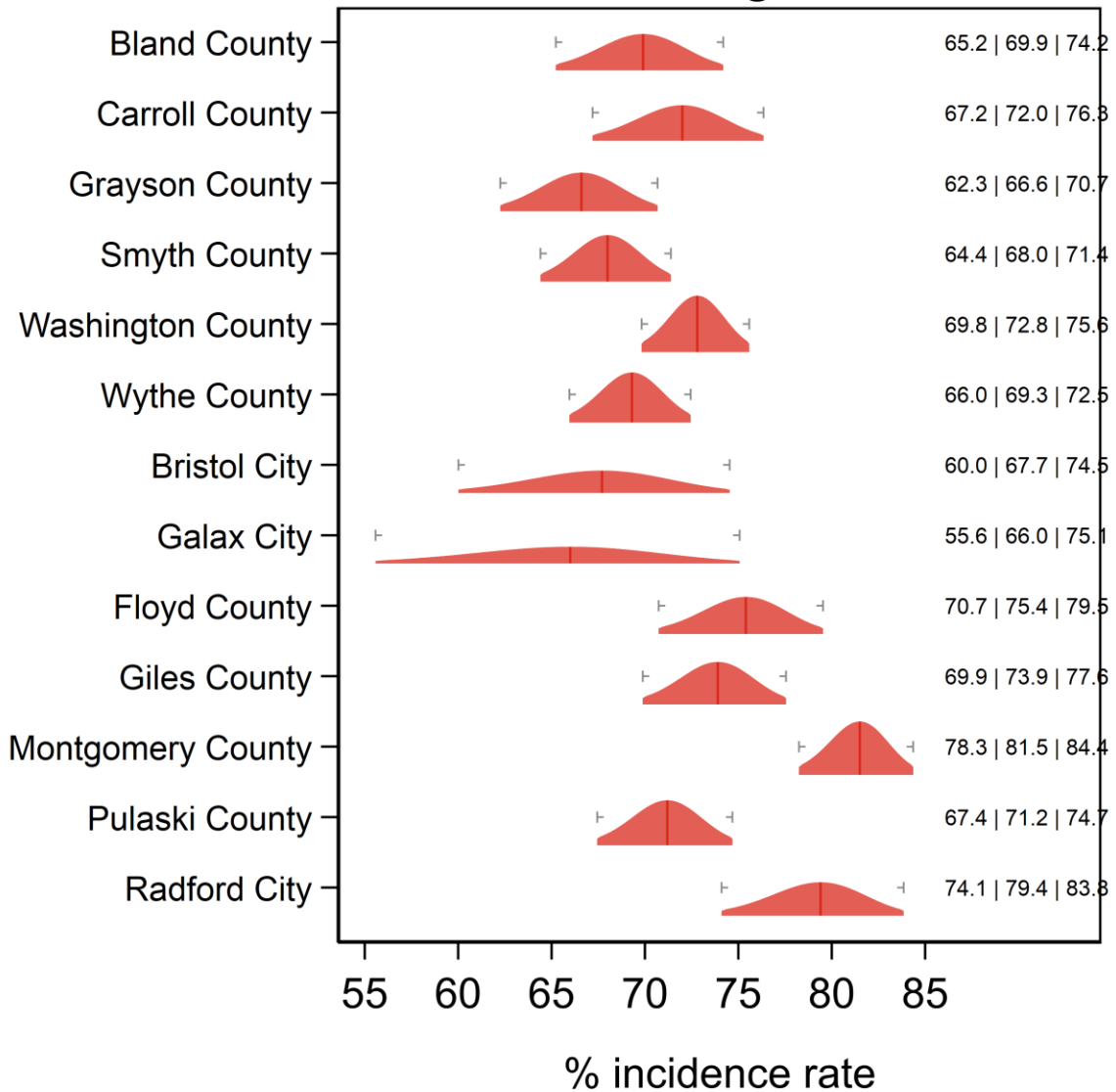
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

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



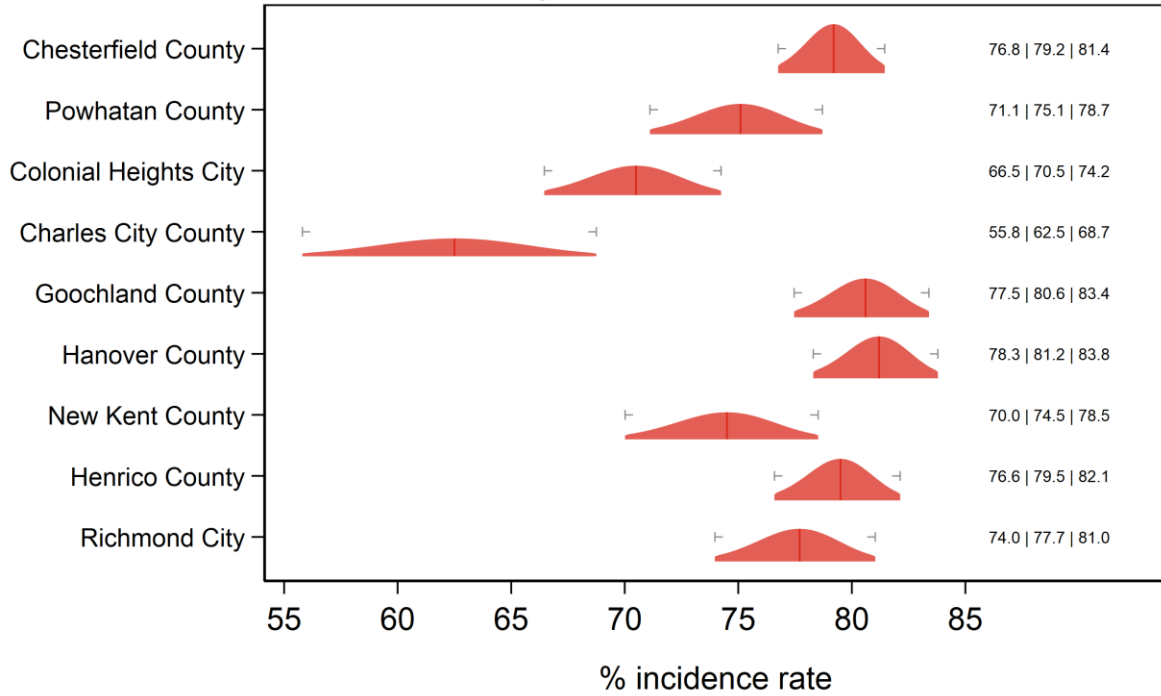
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

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



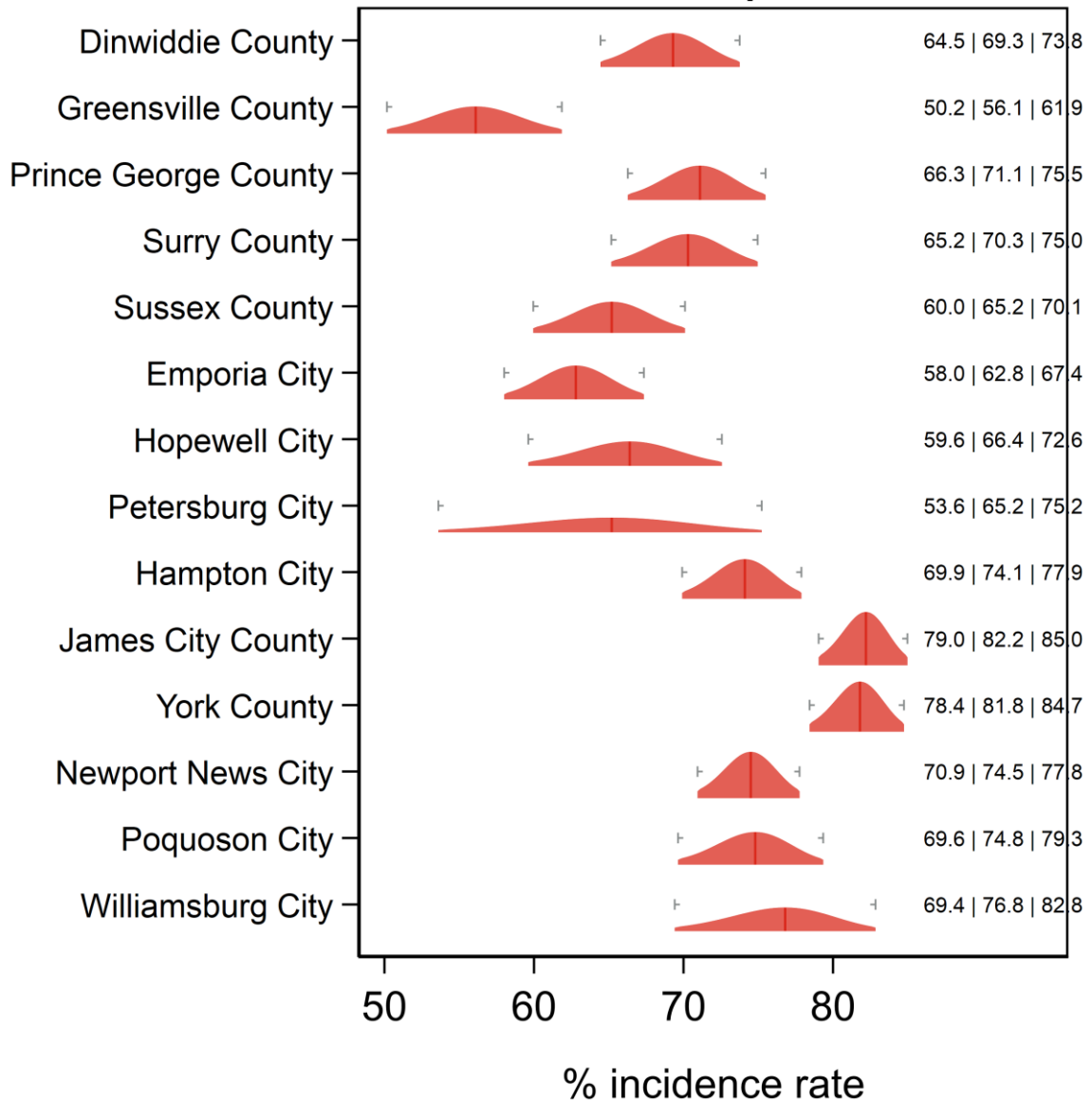
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

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



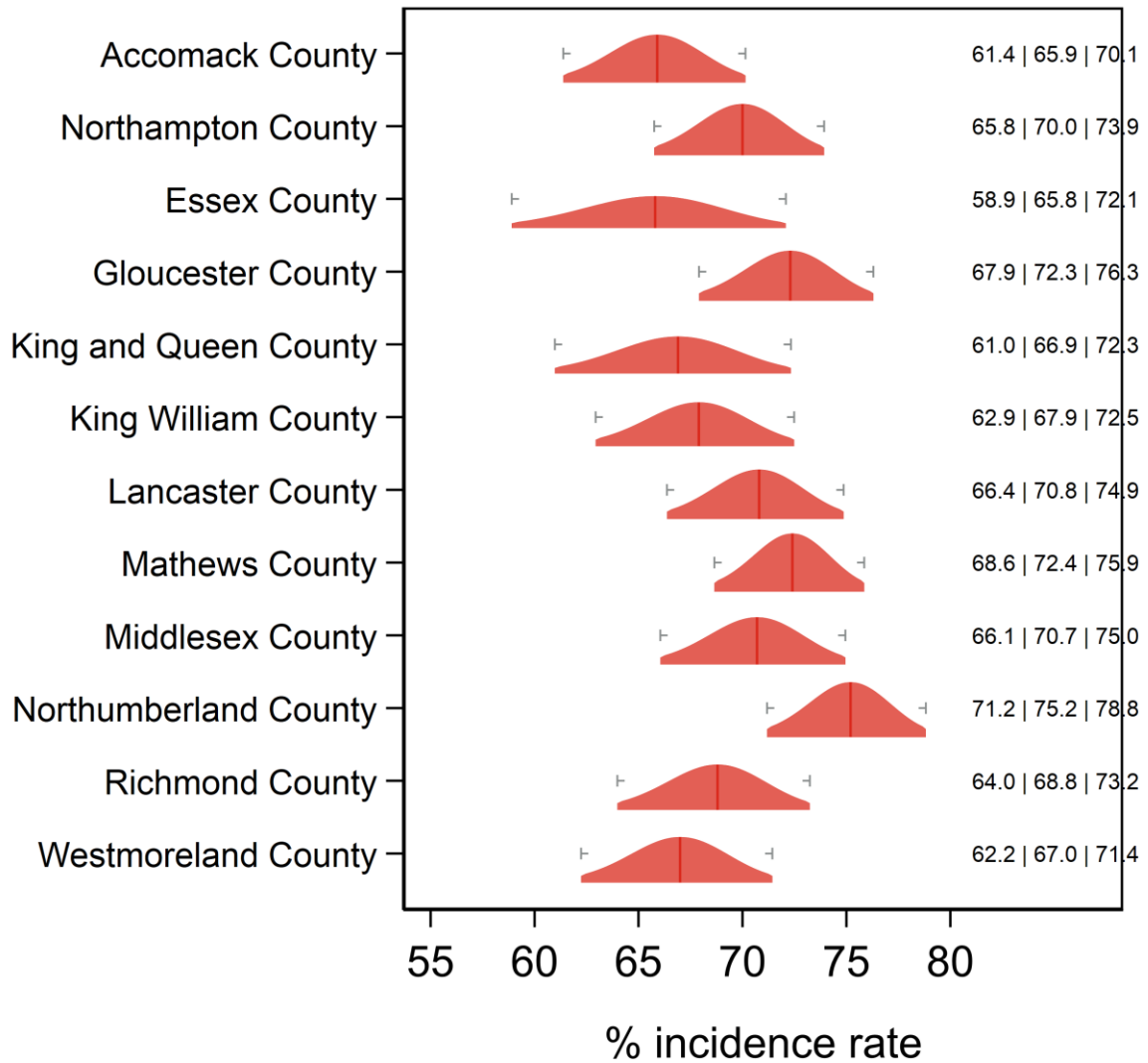
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

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

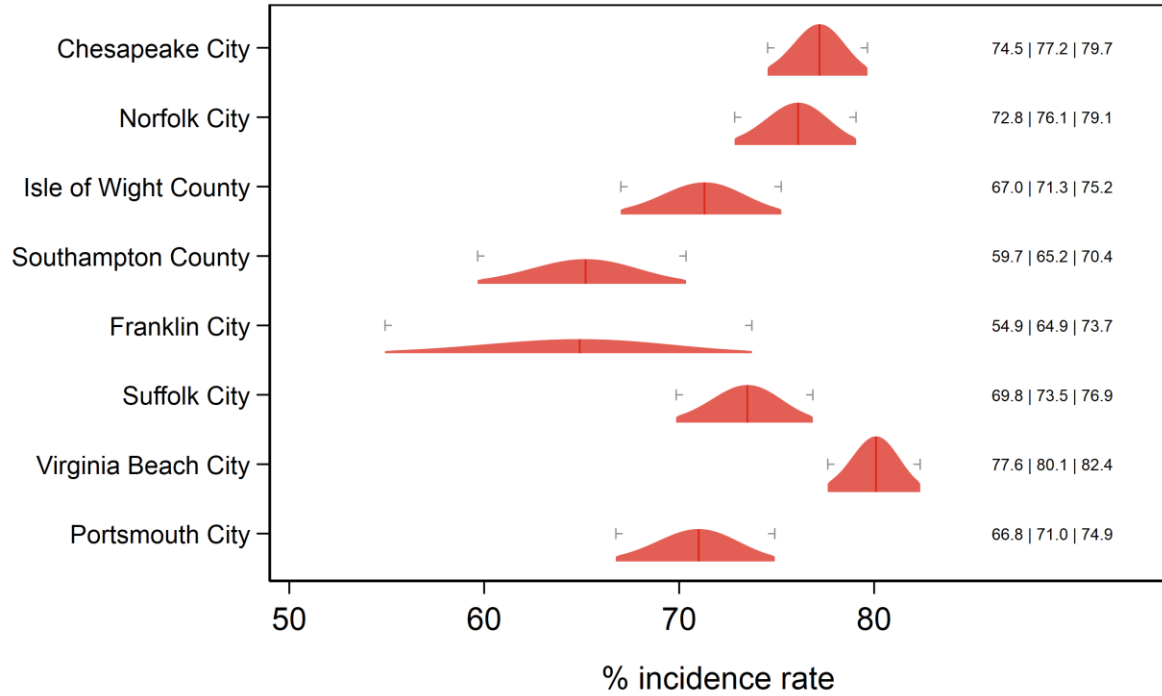
Physical Activity in the Past Month Eastern Shore and Three Rivers HDs



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

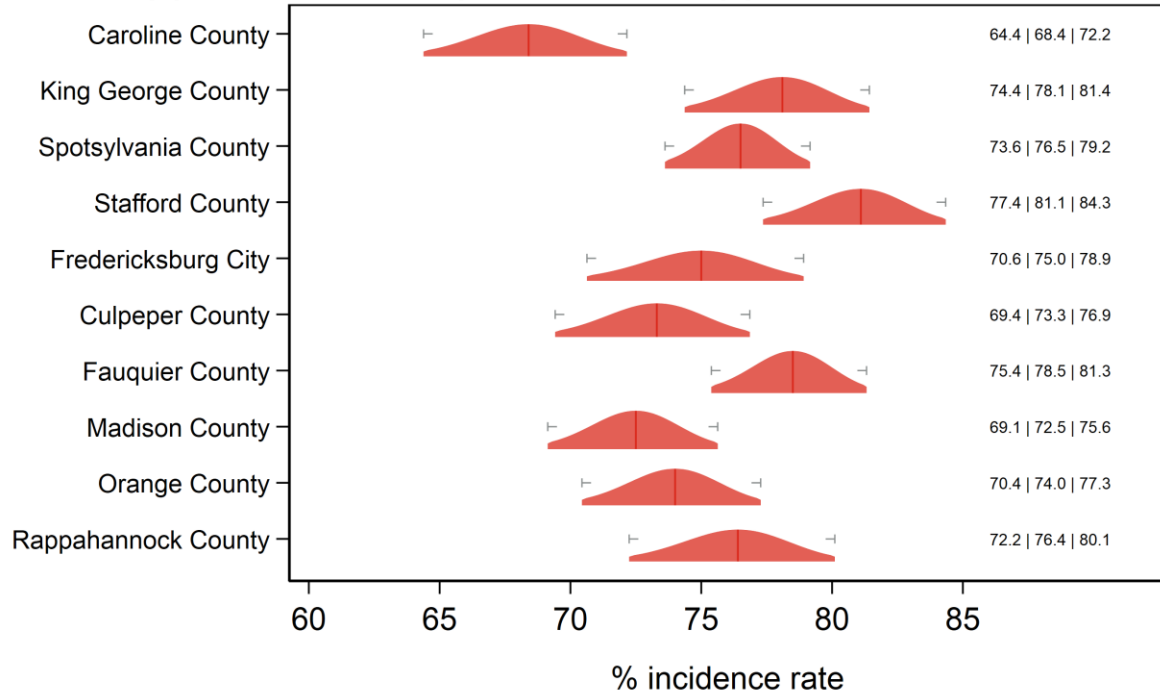
Physical Activity in the Past Month

Norfolk, Portsmouth, Chesapeake, VA Beach, W. Tidewater HDs



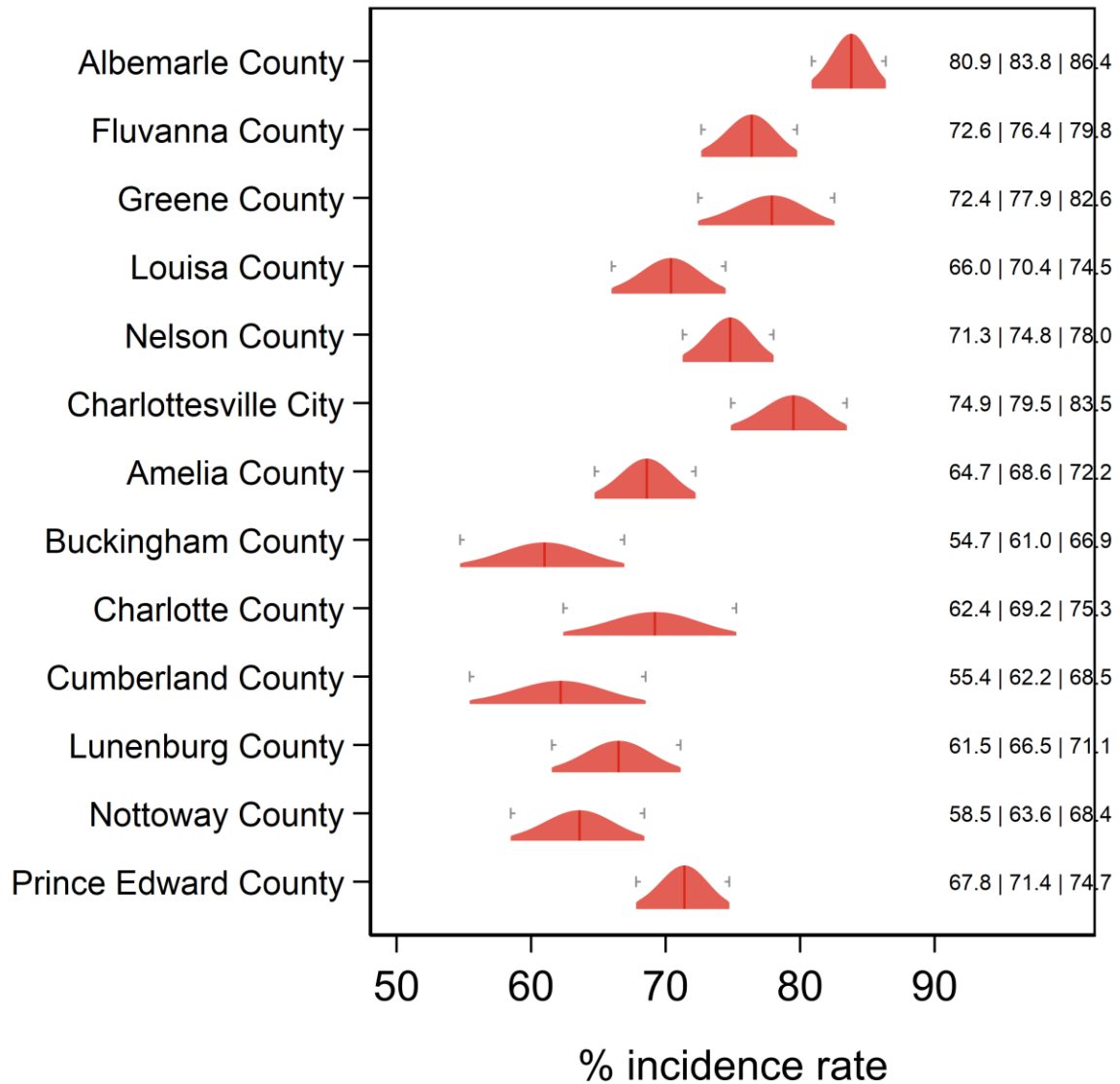
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

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



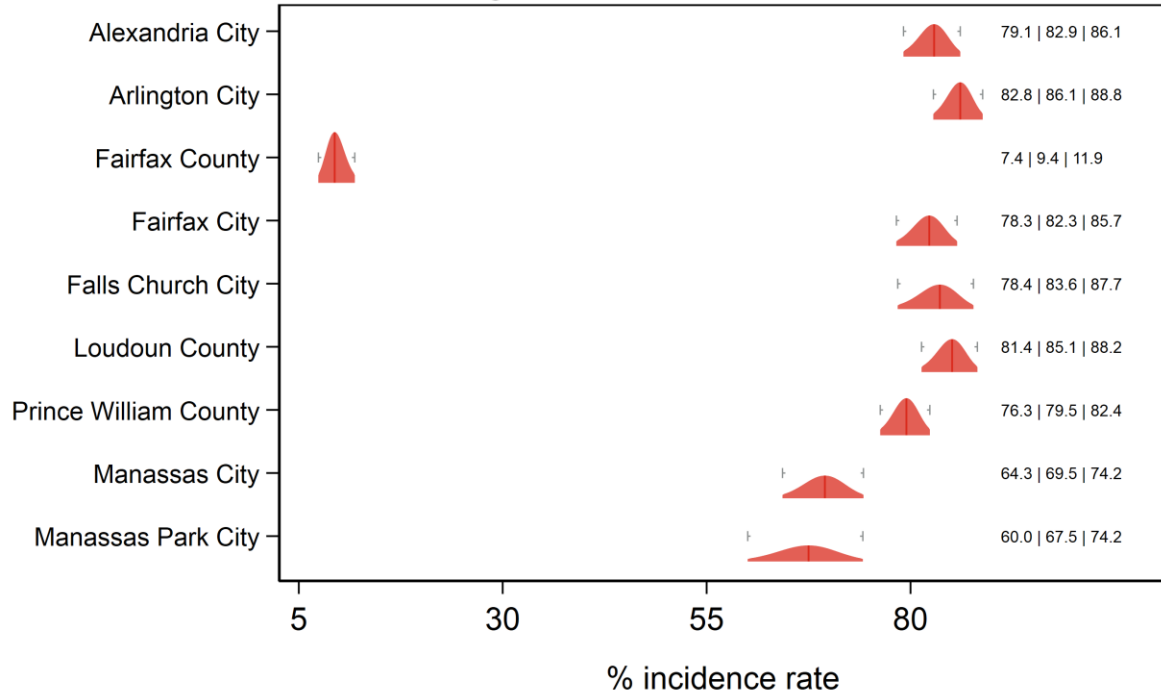
Text at right: 2-sided 95% LCB | Point Estimate | 2-sided 95% UCB
 Gray markers: 95% confidence interval

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

Additional diagnostics

Direct estimate is inside the 95% SAE Wilson CI: 42 areas.

Direct estimate is outside the 95% SAE Wilson CI: 91 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: 107 areas.

SAE Wilson 95% CI partially overlaps with the 95% direct Wilson CI: 26 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 = 1.26%; med = 30.33%; max = 75.14%.

Proportion of SAE variance due to sampling error in regression coefficient estimates: min = 20.19%; med = 58.55%; max = 96.25%.

Proportion of SAE variance due to model selection: min = 0.12%; med = 4.35%; max = 57.26%.

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