

Indicator 5: Doctor Inaccessible Due to Cost

Internal variable name: outc5_doctor_cost

Section 1: Definition

Definition: Was there a time in the past 12 months when you needed to see a doctor but could not because of cost?

Section 2: Predictive models

	Mixed, demos only	Logit, no area effects	Mixed with area covariates
	b/se	b/se	b/se
Outcome 5: Doctor Inaccessible Due to Cost			
Non-Hispanic Black vs. Non-Hispanic White	0.3442** (0.1254)	0.3585** (0.1171)	0.3585** (0.1238)
Non-Hispanic Asian vs. Non-Hispanic White	0.2270 (0.2953)	0.2613 (0.2936)	0.2613 (0.2954)
Non-Hispanic Other vs. Non-Hispanic White	0.3290 (0.1992)	0.3560 (0.1929)	0.3560 (0.1955)
Hispanic vs. Non-Hispanic White	0.8909*** (0.1874)	0.9140*** (0.1772)	0.9140*** (0.1832)
Female	0.3929*** (0.1088)	0.3869*** (0.0944)	0.3869*** (0.1087)
Age 18-24 vs. 65+	1.1018*** (0.1824)	1.1232*** (0.1996)	1.1232*** (0.1835)
Age 25-34 vs. 65+	1.3942*** (0.1670)	1.3859*** (0.1703)	1.3859*** (0.1668)
Age 35-44 vs. 65+	1.1933*** (0.1539)	1.1921*** (0.1667)	1.1921*** (0.1550)
Age 45-54 vs. 65+	1.2956*** (0.1693)	1.3020*** (0.1535)	1.3020*** (0.1693)
Age 55-64 vs. 65+	1.0051*** (0.1721)	1.0172*** (0.1524)	1.0172*** (0.1715)
% households without phone service		-0.0432 (0.0237)	-0.0432* (0.0216)
% with disability		0.0451* (0.0184)	0.0451** (0.0135)
Estimated infant mortality rate		-0.0254* (0.0121)	-0.0254** (0.0095)
% renter occupied housing units		0.0104* (0.0046)	0.0104** (0.0035)
Prostate Cancer Male Rate		0.0042 (0.0025)	0.0042 (0.0021)

Crude mortality rate of Alzheimer's disease per 10,000		0.1301 (0.0837)	0.1301 (0.0725)
{Crude mortality rate of Alzheimer's disease} interacted with {Prostate Cancer Male rate}		-0.0016* (0.0008)	-0.0016* (0.0007)
Compound % lacking kitchen or complete plumbing		-0.0818 (0.2049)	-0.0818 (0.1504)
{% lacking kitchen or plumbing} interacted with {% with disabilities}		0.0131 (0.0110)	0.0131 (0.0067)
Intercept	-3.3114*** (0.1590)	-4.4389*** (0.3444)	-4.4389*** (0.3038)
Area effect variance	0.1245* (0.0615)		0.0000 (0.0000)

Number of alternative models used to estimate model error = 15.

Section 3: Results

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE 95% CI
Augusta County	51015	12.6%	(7.0%, 21.6%)	10.5%	(8.9%, 12.3%)
Bath County	51017	15.3%	(4.4%, 50.5%)	19.9%	(12.3%, 30.6%)
Caroline County	51033	28.1%	(12.9%, 50.6%)	15.2%	(12.5%, 18.3%)
Clarke County	51043	15.3%	(4.3%, 41.7%)	11.7%	(9.9%, 13.8%)
Culpeper County	51047	29.2%	(17.1%, 45.3%)	11.3%	(10.0%, 12.7%)
Fauquier County	51061	15.8%	(7.9%, 29.2%)	10.6%	(9.2%, 12.3%)
Frederick County	51069	8.0%	(4.0%, 15.4%)	10.3%	(9.0%, 11.7%)
Highland County	51091	0.0%	(0.0%, 83.2%)	11.0%	(8.5%, 14.1%)
King George County	51099	14.7%	(3.7%, 43.4%)	13.7%	(11.7%, 15.9%)
Madison County	51113	7.5%	(3.6%, 28.4%)	14.1%	(10.1%, 19.5%)
Orange County	51137	3.4%	(2.2%, 16.1%)	11.4%	(10.0%, 13.0%)
Page County	51139	23.7%	(8.3%, 51.5%)	16.6%	(13.4%, 20.5%)
Rappahannock County	51157	25.9%	(7.9%, 58.7%)	12.3%	(10.2%, 14.7%)
Rockbridge County	51163	20.3%	(7.7%, 43.8%)	16.3%	(13.8%, 19.2%)
Rockingham County	51165	7.1%	(3.4%, 14.2%)	12.7%	(10.6%, 15.2%)
Shenandoah County	51171	11.3%	(4.6%, 25.0%)	11.2%	(9.2%, 13.6%)
Spotsylvania County	51177	11.6%	(5.5%, 22.8%)	10.7%	(9.0%, 12.7%)
Stafford County	51179	7.4%	(3.5%, 15.1%)	10.3%	(9.1%, 11.6%)
Warren County	51187	9.4%	(2.9%, 26.4%)	12.4%	(11.0%, 13.8%)
Buena Vista City	51530	0.0%	(-0.0%, 89.6%)	12.2%	(9.0%, 16.4%)
Fredericksburg City	51630	14.8%	(3.8%, 43.3%)	17.9%	(14.1%, 22.6%)
Harrisonburg City	51660	46.2%	(18.8%, 76.1%)	12.3%	(10.0%, 15.0%)
Lexington City	51678	0.0%	(0.0%, 99.4%)	3.4%	(0.8%, 12.6%)
Staunton City	51790	10.8%	(2.0%, 52.6%)	10.0%	(5.4%, 17.7%)
Waynesboro City	51820	19.6%	(4.7%, 54.6%)	10.8%	(9.0%, 13.0%)
Winchester City	51840	20.4%	(5.0%, 55.4%)	17.4%	(13.6%, 21.9%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE 95% CI
Albemarle County	51003	19.9%	(12.0%, 31.2%)	12.0%	(9.6%, 14.9%)
Alleghany County	51005	15.3%	(5.7%, 35.0%)	9.0%	(6.6%, 12.2%)
Amherst County	51009	1.9%	(1.2%, 18.6%)	9.0%	(7.0%, 11.4%)
Appomattox County	51011	20.5%	(6.5%, 48.7%)	12.7%	(10.5%, 15.2%)
Arlington City	51013	13.8%	(6.8%, 26.1%)	13.0%	(11.0%, 15.3%)
Bedford County	51019	10.2%	(4.9%, 20.3%)	11.0%	(9.4%, 12.8%)
Botetourt County	51023	12.8%	(6.0%, 25.1%)	11.3%	(9.6%, 13.3%)
Campbell County	51031	16.1%	(7.7%, 30.7%)	10.9%	(9.3%, 12.7%)
Craig County	51045	0.0%	(0.0%, 73.6%)	13.1%	(9.6%, 17.6%)
Fairfax County	51059	12.0%	(8.2%, 17.3%)	11.8%	(10.4%, 13.3%)
Fluvanna County	51065	28.6%	(11.0%, 56.3%)	11.2%	(9.7%, 12.9%)
Greene County	51079	11.8%	(2.9%, 37.0%)	8.8%	(6.4%, 12.0%)
Loudoun County	51107	8.2%	(4.5%, 14.3%)	10.6%	(8.9%, 12.5%)
Louisa County	51109	12.4%	(4.4%, 30.0%)	13.0%	(11.1%, 15.1%)
Nelson County	51125	9.5%	(2.4%, 31.2%)	17.0%	(12.9%, 21.9%)
Prince William County	51153	9.1%	(6.0%, 13.6%)	11.8%	(10.4%, 13.3%)
Roanoke County	51161	11.8%	(6.5%, 20.6%)	9.6%	(8.6%, 10.8%)
Alexandria City	51510	13.7%	(6.5%, 26.6%)	13.4%	(10.8%, 16.5%)
Charlottesville City	51540	18.9%	(5.5%, 48.4%)	19.2%	(13.1%, 27.3%)
Covington City	51580	0.0%	(0.0%, 99.4%)	23.7%	(18.4%, 29.9%)
Fairfax City	51600	9.3%	(3.9%, 20.3%)	10.1%	(8.7%, 11.6%)
Falls Church City	51610	39.6%	(5.0%, 89.0%)	11.0%	(9.2%, 13.2%)
Lynchburg City	51680	17.0%	(7.5%, 33.9%)	12.1%	(10.4%, 14.0%)
Manassas City	51683	0.0%	(0.0%, 31.6%)	13.4%	(11.0%, 16.2%)
Manassas Park City	51685	0.0%	(-0.0%, 96.8%)	11.7%	(9.2%, 14.9%)
Salem City	51775	15.4%	(3.3%, 48.9%)	14.3%	(11.7%, 17.3%)

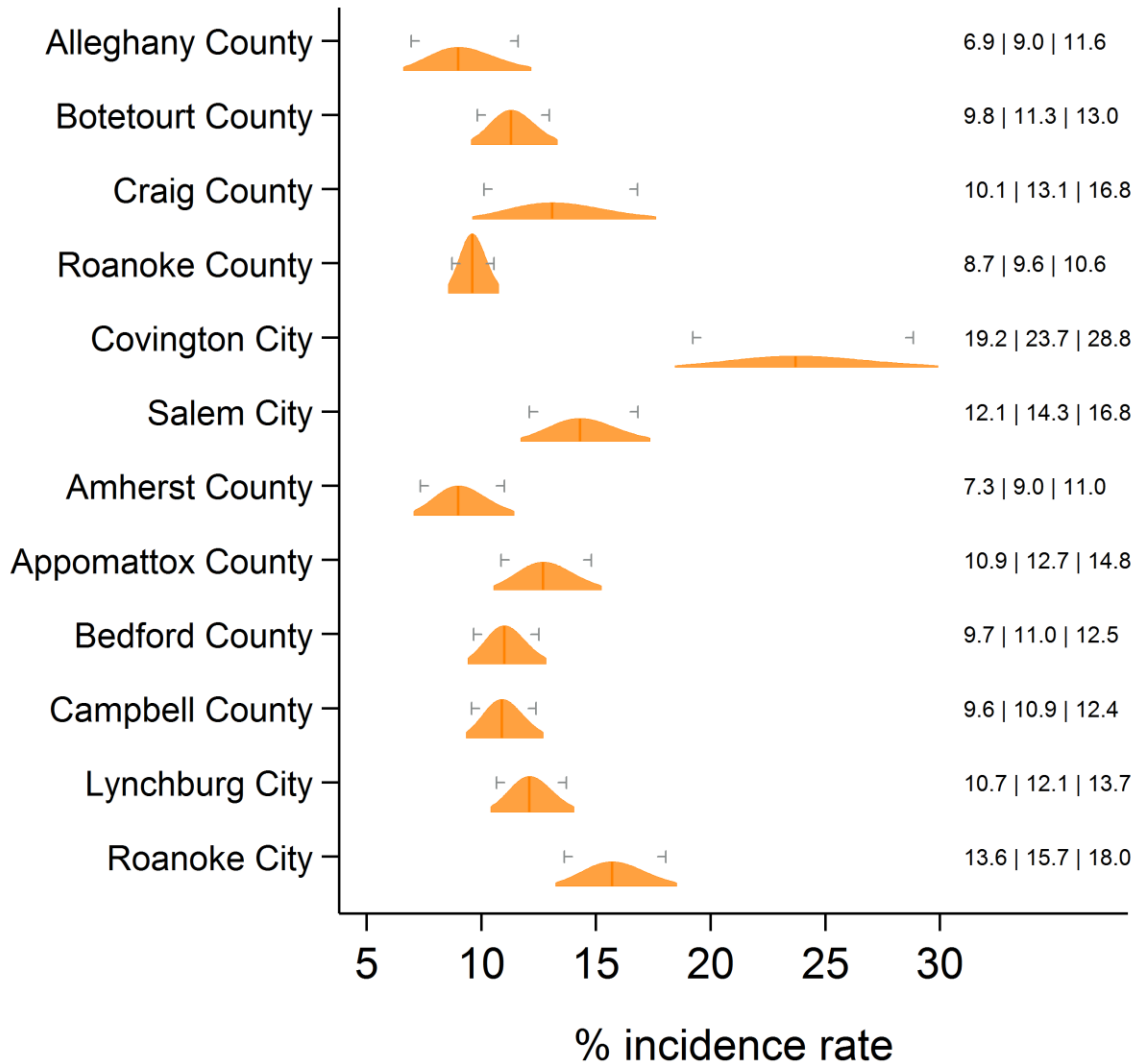
County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE 95% CI
Bland County	51021	22.4%	(3.0%, 73.0%)	14.7%	(12.2%, 17.7%)
Buchanan County	51027	24.1%	(13.0%, 40.5%)	20.5%	(17.3%, 24.1%)
Carroll County	51035	13.1%	(4.7%, 31.5%)	12.9%	(10.1%, 16.4%)
Dickenson County	51051	18.6%	(8.0%, 37.4%)	20.9%	(16.4%, 26.2%)
Floyd County	51063	16.3%	(6.6%, 34.9%)	11.5%	(10.2%, 12.9%)
Franklin County	51067	9.7%	(3.7%, 23.1%)	12.8%	(11.1%, 14.7%)
Giles County	51071	19.0%	(6.9%, 42.8%)	14.5%	(11.6%, 17.9%)
Grayson County	51077	2.3%	(1.1%, 23.6%)	8.7%	(5.5%, 13.5%)
Henry County	51089	11.1%	(4.1%, 26.8%)	12.7%	(10.8%, 14.9%)
Lee County	51105	41.8%	(23.3%, 63.0%)	38.4%	(31.6%, 45.6%)
Montgomery County	51121	9.3%	(4.4%, 18.4%)	10.2%	(8.1%, 12.8%)
Patrick County	51141	13.6%	(5.1%, 31.5%)	20.1%	(17.5%, 23.0%)
Pittsylvania County	51143	8.7%	(5.0%, 14.8%)	11.9%	(9.9%, 14.2%)
Pulaski County	51155	12.0%	(4.6%, 28.0%)	13.2%	(11.2%, 15.4%)
Russell County	51167	10.9%	(4.2%, 25.3%)	15.1%	(11.8%, 19.0%)
Scott County	51169	28.6%	(16.0%, 45.6%)	29.0%	(24.4%, 34.0%)
Smyth County	51173	13.0%	(4.9%, 30.2%)	16.8%	(14.3%, 19.7%)
Tazewell County	51185	22.9%	(12.9%, 37.3%)	23.6%	(19.7%, 27.9%)
Washington County	51191	15.5%	(7.3%, 29.8%)	15.0%	(13.3%, 16.8%)
Wise County	51195	18.9%	(10.2%, 32.3%)	24.5%	(21.8%, 27.5%)
Wythe County	51197	16.3%	(7.8%, 31.0%)	17.3%	(14.8%, 20.2%)
Bristol City	51520	8.5%	(2.0%, 48.5%)	22.5%	(15.0%, 32.4%)
Danville City	51590	19.2%	(6.8%, 43.5%)	21.0%	(18.5%, 23.7%)
Galax City	51640	64.4%	(13.6%, 94.8%)	8.1%	(3.2%, 19.4%)
Martinsville City	51690	12.9%	(1.7%, 55.2%)	22.2%	(15.1%, 31.5%)
Norton City	51720	15.7%	(2.2%, 76.9%)	22.4%	(13.5%, 34.8%)
Radford City	51750	0.0%	(0.0%, 56.8%)	22.2%	(14.5%, 32.4%)
Roanoke City	51770	12.6%	(7.5%, 20.5%)	15.7%	(13.3%, 18.6%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE 95% CI
Amelia County	51007	0.0%	(0.0%, 23.3%)	14.0%	(11.6%, 16.7%)
Brunswick County	51025	25.9%	(9.7%, 53.2%)	14.9%	(11.5%, 19.1%)
Buckingham County	51029	46.5%	(24.0%, 70.4%)	20.0%	(13.7%, 28.3%)
Charles City County	51036	23.1%	(5.5%, 61.0%)	15.4%	(12.2%, 19.2%)
Charlotte County	51037	6.1%	(3.2%, 34.9%)	13.1%	(9.4%, 18.0%)
Chesterfield County	51041	10.2%	(6.5%, 15.6%)	10.5%	(9.1%, 12.1%)
Cumberland County	51049	25.2%	(8.3%, 55.7%)	17.0%	(13.8%, 20.9%)
Dinwiddie County	51053	3.8%	(2.5%, 19.7%)	9.7%	(6.6%, 14.1%)
Goochland County	51075	1.6%	(1.1%, 20.8%)	7.9%	(6.0%, 10.3%)
Greensville County	51081	21.9%	(5.8%, 56.0%)	23.3%	(18.0%, 29.7%)
Halifax County	51083	16.2%	(7.5%, 31.7%)	14.0%	(10.2%, 18.8%)
Hanover County	51085	12.1%	(6.2%, 22.2%)	8.5%	(7.2%, 10.1%)
Henrico County	51087	12.9%	(9.0%, 18.2%)	12.5%	(11.2%, 13.8%)
Lunenburg County	51111	32.1%	(11.0%, 64.5%)	17.8%	(14.7%, 21.5%)
Mecklenburg County	51117	5.5%	(3.5%, 16.2%)	15.9%	(13.1%, 19.3%)
New Kent County	51127	5.0%	(0.8%, 25.4%)	7.2%	(5.5%, 9.4%)
Nottoway County	51135	26.0%	(9.0%, 55.4%)	16.3%	(13.0%, 20.2%)
Powhatan County	51145	0.0%	(-0.0%, 32.8%)	9.5%	(7.3%, 12.1%)
Prince Edward County	51147	7.1%	(1.8%, 23.9%)	12.6%	(9.6%, 16.4%)
Prince George County	51149	3.7%	(2.3%, 16.2%)	9.3%	(6.6%, 13.0%)
Surry County	51181	22.6%	(4.0%, 66.8%)	10.6%	(7.8%, 14.3%)
Sussex County	51183	23.5%	(5.7%, 61.0%)	15.9%	(11.5%, 21.6%)
Colonial Heights City	51570	31.9%	(7.9%, 71.9%)	11.8%	(7.4%, 18.2%)
Emporia City	51595	31.1%	(3.1%, 86.3%)	21.9%	(15.9%, 29.3%)
Hopewell City	51670	18.7%	(4.2%, 54.8%)	10.2%	(5.5%, 18.1%)
Petersburg City	51730	5.4%	(1.7%, 15.6%)	8.1%	(4.3%, 14.8%)
Richmond City	51760	17.2%	(11.3%, 25.5%)	20.1%	(15.9%, 25.1%)

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE 95% CI
Accomack County	51001	15.0%	(6.2%, 32.2%)	13.1%	(10.8%, 15.9%)
Essex County	51057	2.9%	(1.3%, 30.9%)	9.1%	(5.6%, 14.5%)
Gloucester County	51073	10.0%	(3.0%, 28.6%)	11.5%	(9.4%, 14.0%)
Isle of Wight County	51093	10.6%	(4.5%, 22.8%)	10.5%	(8.8%, 12.5%)
James City County	51095	9.7%	(4.2%, 20.7%)	11.0%	(8.7%, 13.8%)
King and Queen County	51097	24.0%	(3.3%, 74.6%)	10.0%	(6.7%, 14.5%)
King William County	51101	5.4%	(2.0%, 28.8%)	8.4%	(6.7%, 10.4%)
Lancaster County	51103	19.2%	(2.8%, 65.9%)	13.7%	(9.3%, 19.8%)
Mathews County	51115	6.6%	(1.1%, 32.0%)	8.2%	(4.5%, 14.4%)
Middlesex County	51119	11.0%	(1.5%, 49.9%)	12.1%	(9.6%, 15.2%)
Northampton County	51131	13.9%	(4.9%, 33.5%)	7.5%	(5.1%, 11.0%)
Northumberland County	51133	2.8%	(1.2%, 24.9%)	11.8%	(9.2%, 14.8%)
Richmond County	51159	25.3%	(11.2%, 47.7%)	18.4%	(15.5%, 21.7%)
Southampton County	51175	18.6%	(4.1%, 54.9%)	17.1%	(14.3%, 20.3%)
Westmoreland County	51193	44.3%	(18.8%, 73.2%)	14.1%	(12.0%, 16.4%)
York County	51199	12.5%	(5.0%, 27.6%)	9.9%	(8.7%, 11.2%)
Chesapeake City	51550	11.0%	(6.7%, 17.3%)	11.3%	(10.1%, 12.5%)
Franklin City	51620	8.4%	(2.7%, 23.3%)	9.5%	(5.7%, 15.4%)
Hampton City	51650	11.8%	(7.0%, 19.3%)	13.5%	(12.0%, 15.1%)
Newport News City	51700	18.0%	(11.6%, 26.7%)	16.1%	(14.2%, 18.2%)
Norfolk City	51710	18.3%	(12.2%, 26.5%)	16.8%	(14.6%, 19.4%)
Poquoson City	51735	0.0%	(0.0%, 54.0%)	11.8%	(10.0%, 14.0%)
Portsmouth City	51740	14.7%	(7.9%, 25.9%)	15.9%	(13.7%, 18.4%)
Suffolk City	51800	12.2%	(6.1%, 23.2%)	12.3%	(10.9%, 13.8%)
Virginia Beach City	51810	13.0%	(9.1%, 18.2%)	13.3%	(12.3%, 14.5%)
Williamsburg City	51830	0.0%	(0.0%, 55.7%)	4.3%	(0.9%, 17.9%)

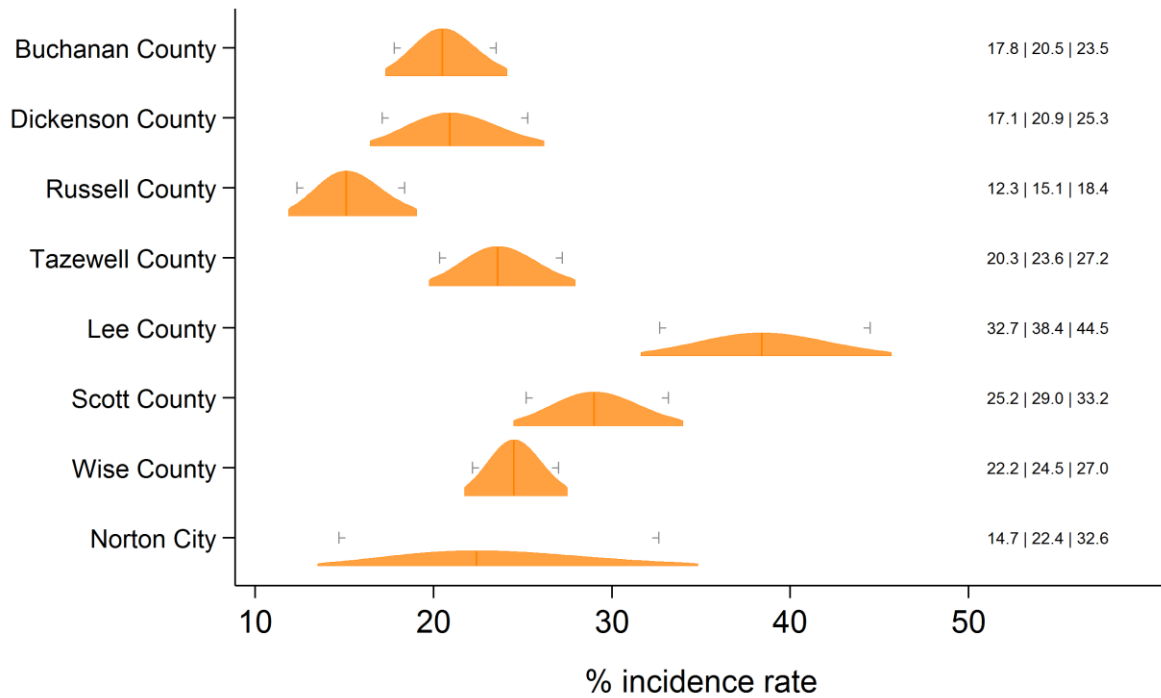
Section 4: Graphical representation

Could not afford doctor in the past 12 months Alleghany, Roanoke and Central Virginia HDs



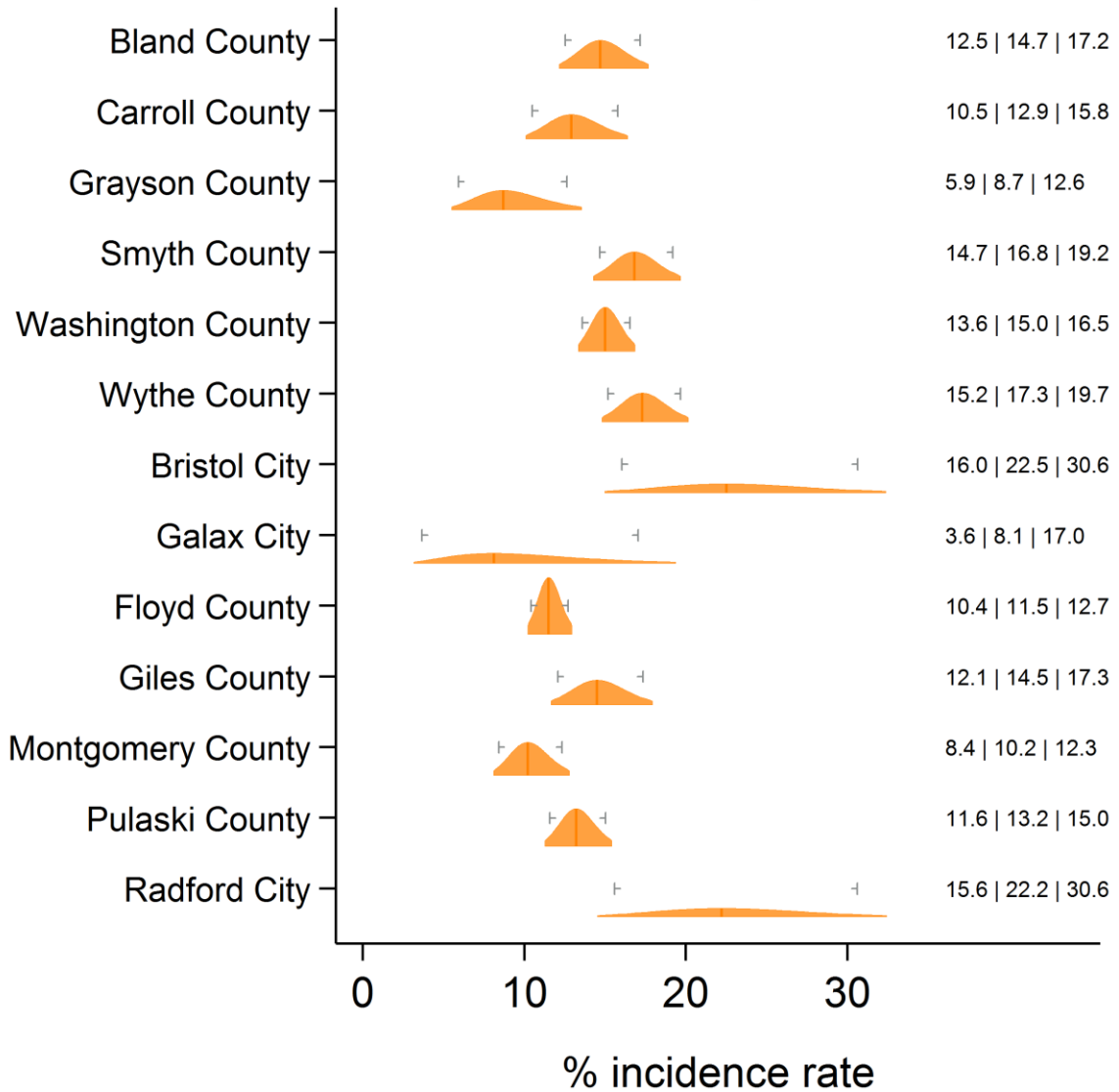
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 Gray markers: 90% confidence interval

Could not afford doctor in the past 12 months Cumberland Plateau and Lenowisco HDs



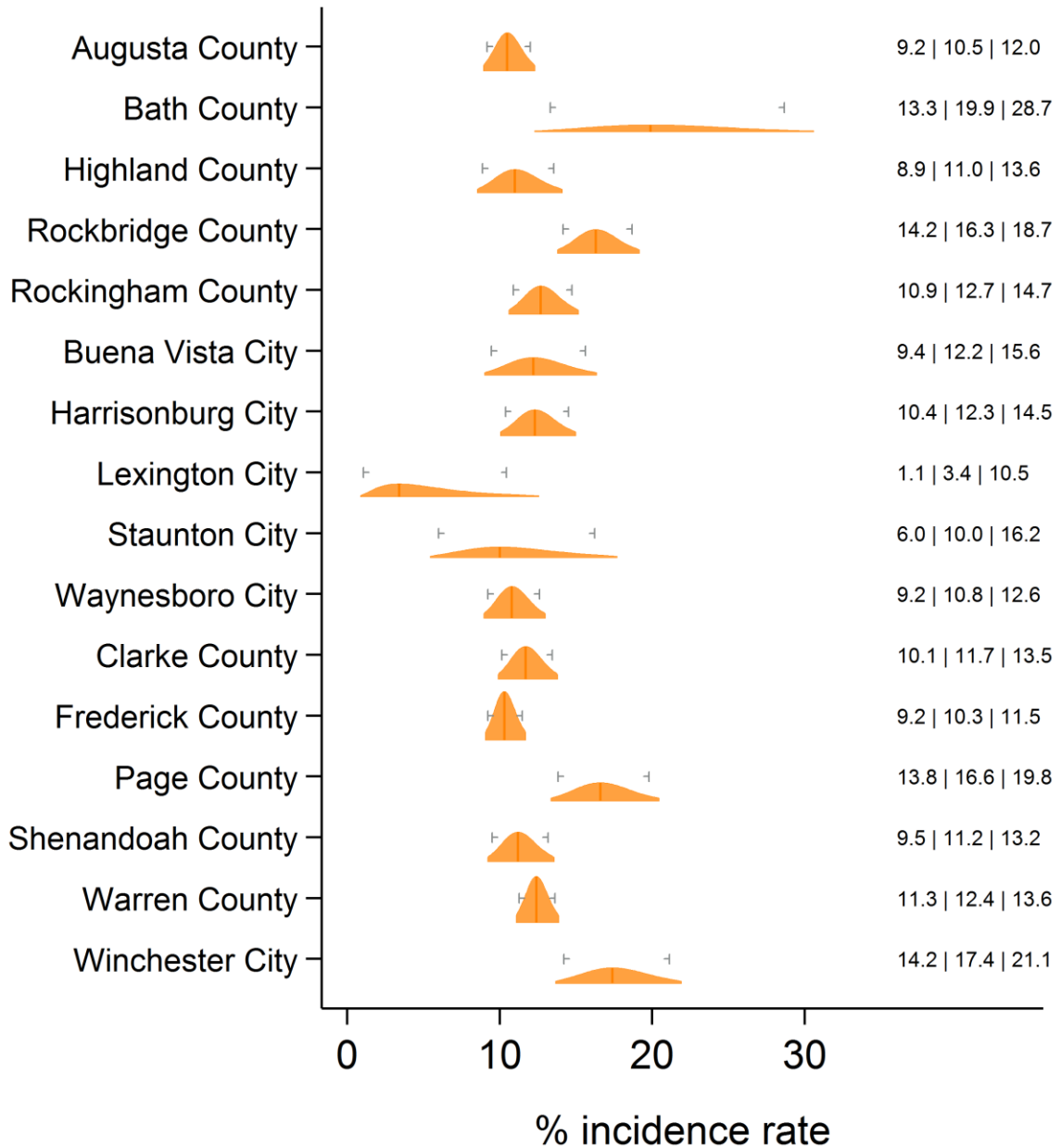
Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
 Gray markers: 90% confidence interval

Could not afford doctor in the past 12 months New River and Mount Rogers HDs



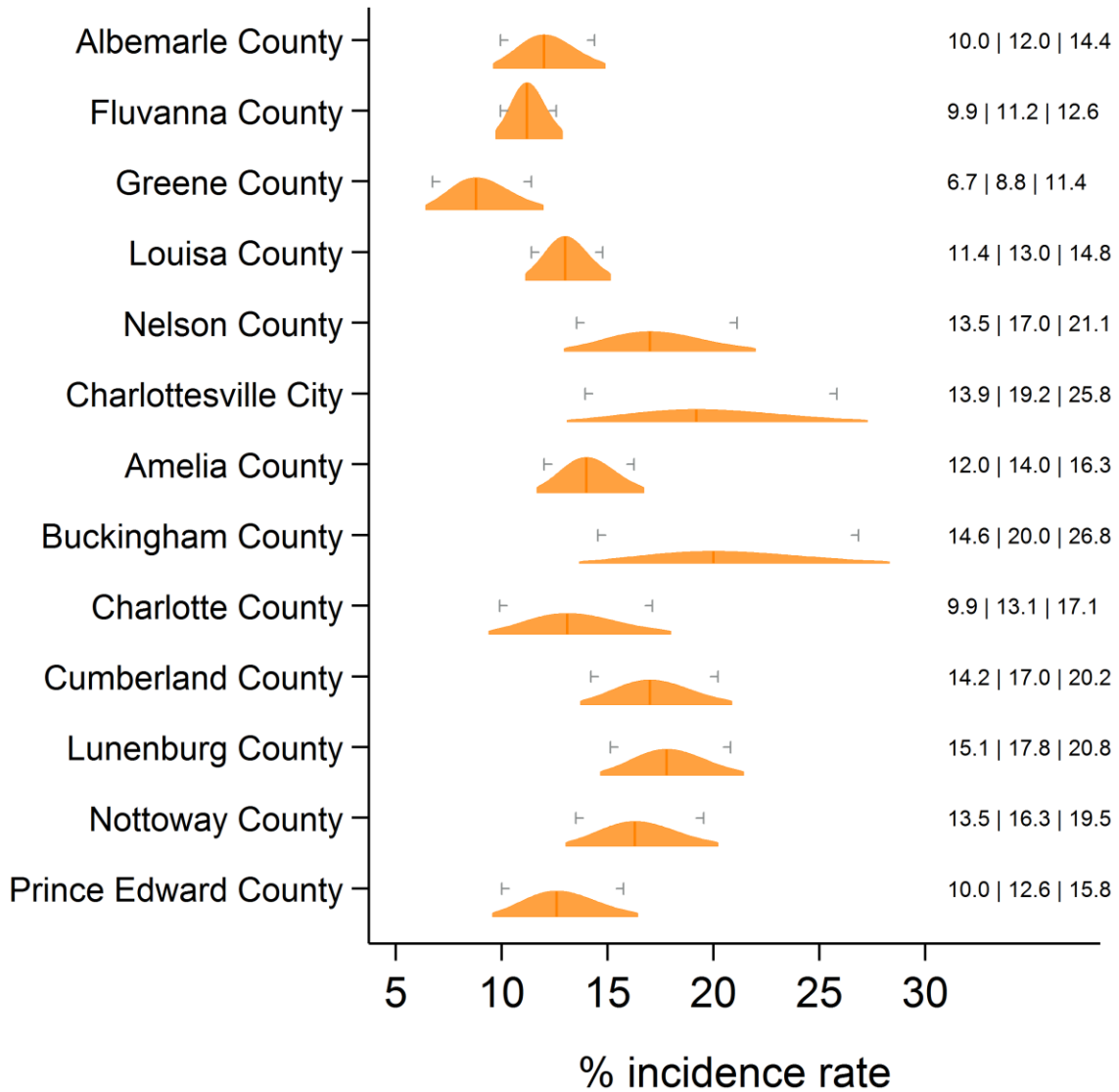
Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
 Gray markers: 90% confidence interval

Could not afford doctor in the past 12 months Central Shenandoah and Lord Fairfax HDs



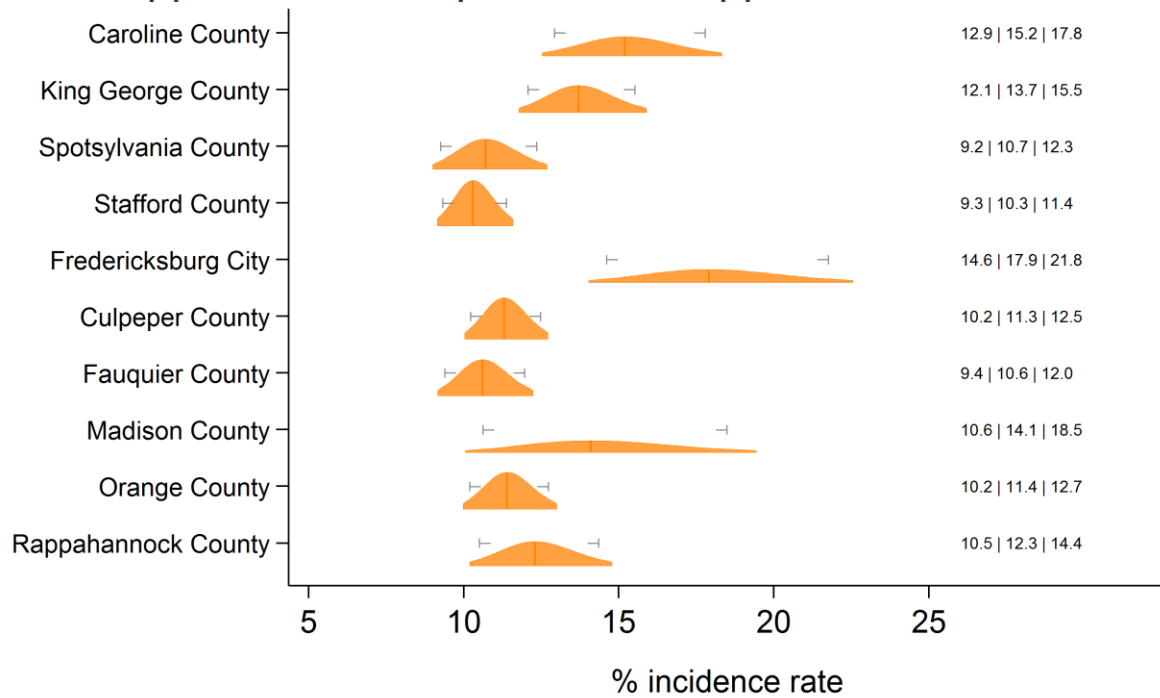
Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
 Gray markers: 90% confidence interval

Could not afford doctor in the past 12 months Thomas Jefferson and Piedmont HDs



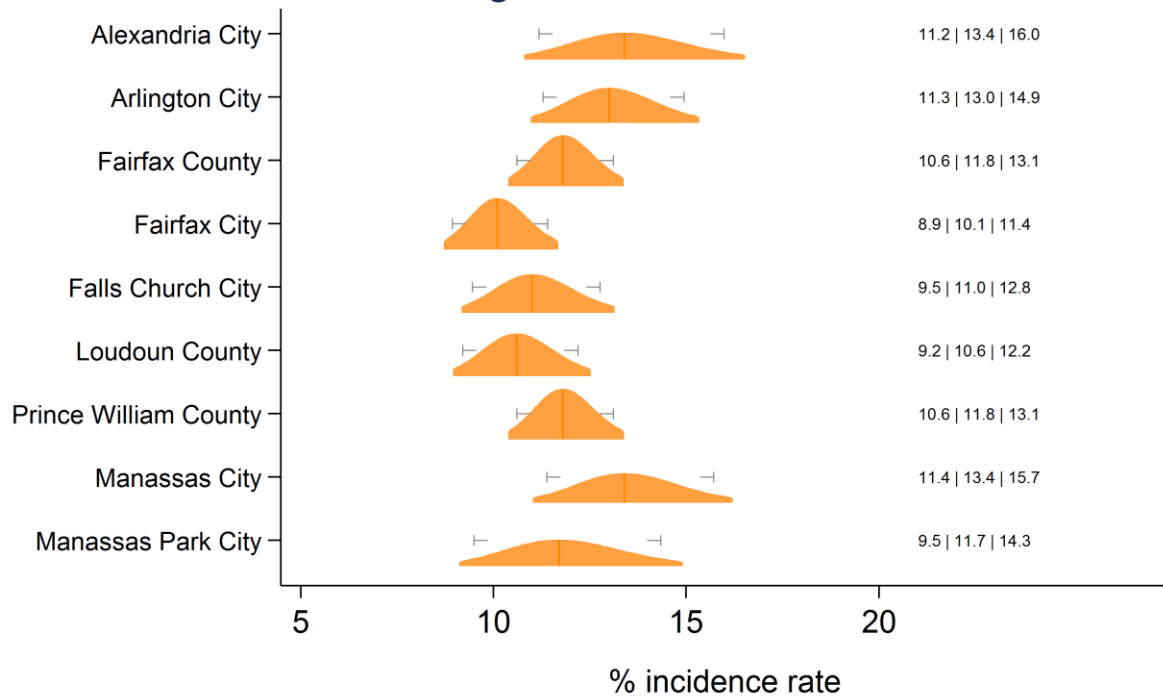
Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
 Gray markers: 90% confidence interval

Could not afford doctor in the past 12 months Rappahannock/Rapidan and Rappahannock HDs



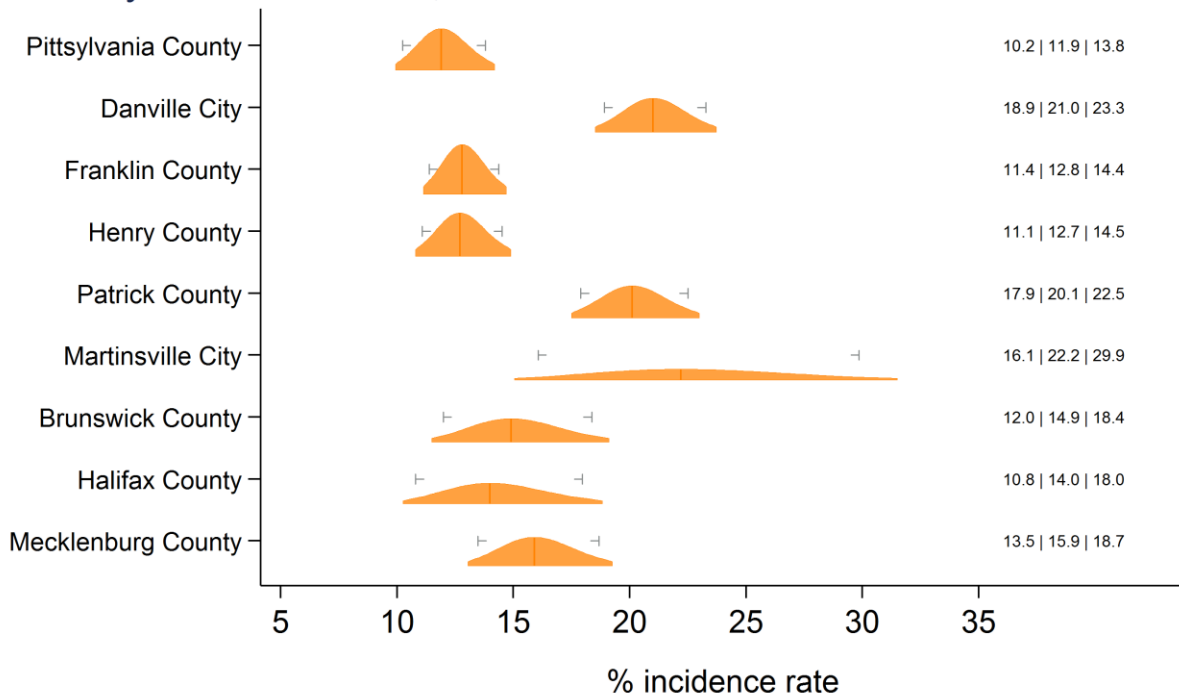
Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
 Gray markers: 90% confidence interval

Could not afford doctor in the past 12 months Alexandria, Fairfax, Arlington, Loudon, Prince William HDs



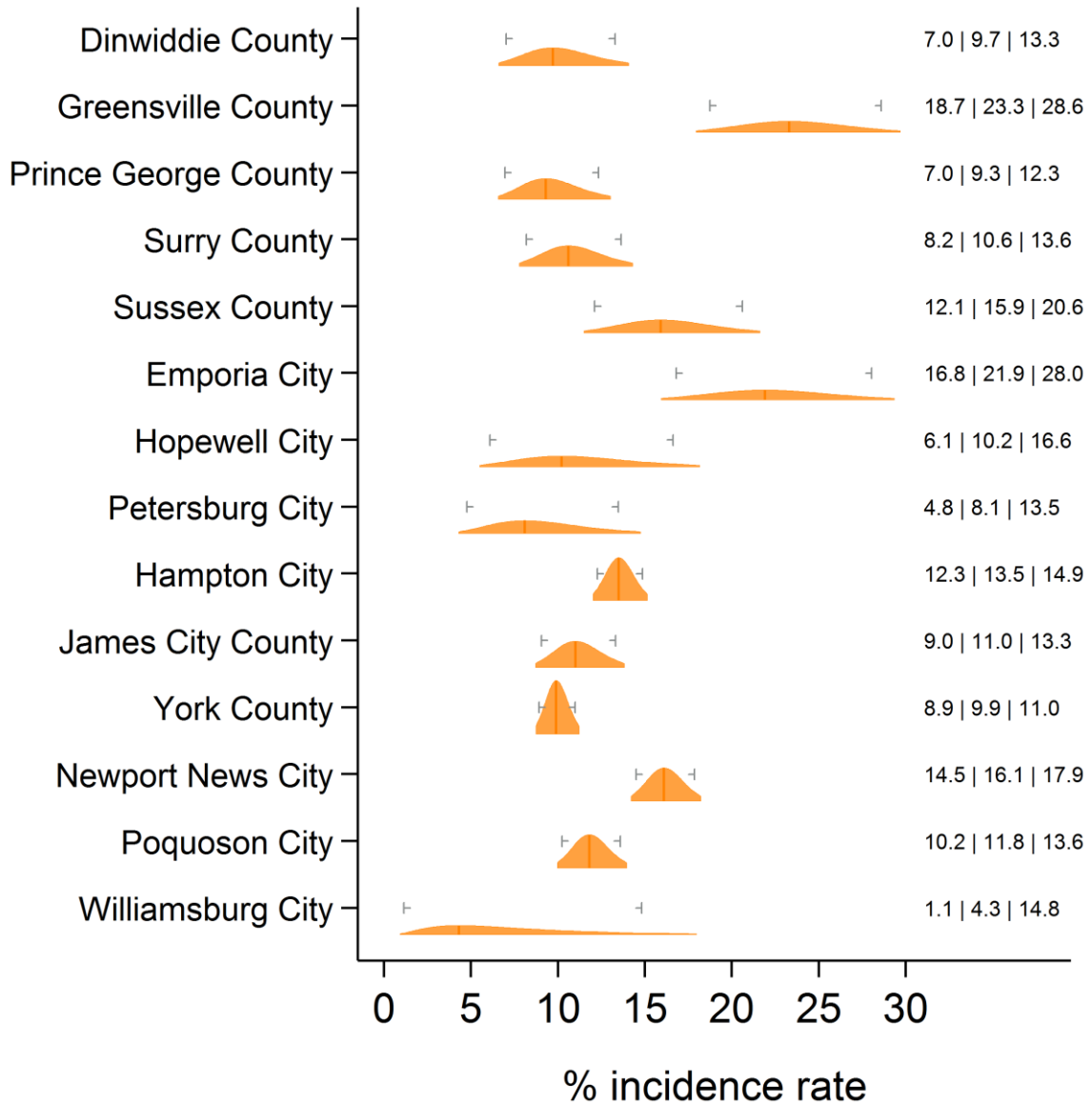
Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
 Gray markers: 90% confidence interval

Could not afford doctor in the past 12 months Pittsylvania/Danville, Southside and West Piedmont HDs



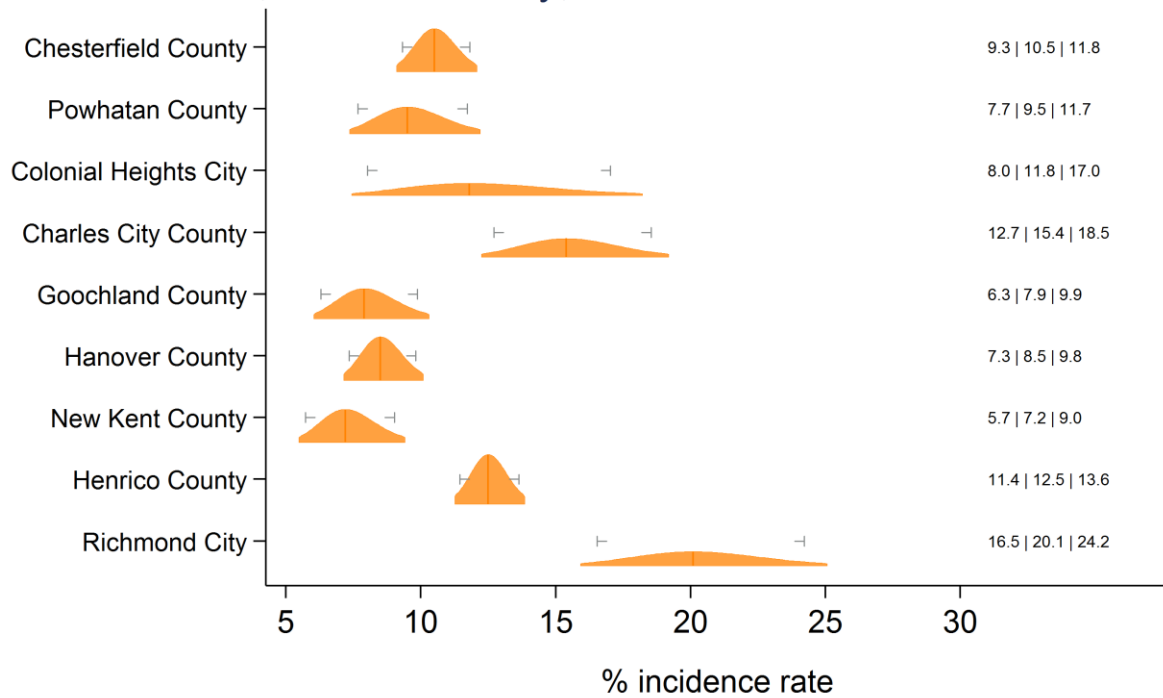
Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
 Gray markers: 90% confidence interval

Could not afford doctor in the past 12 months Crater, Peninsula and Hampton HDs



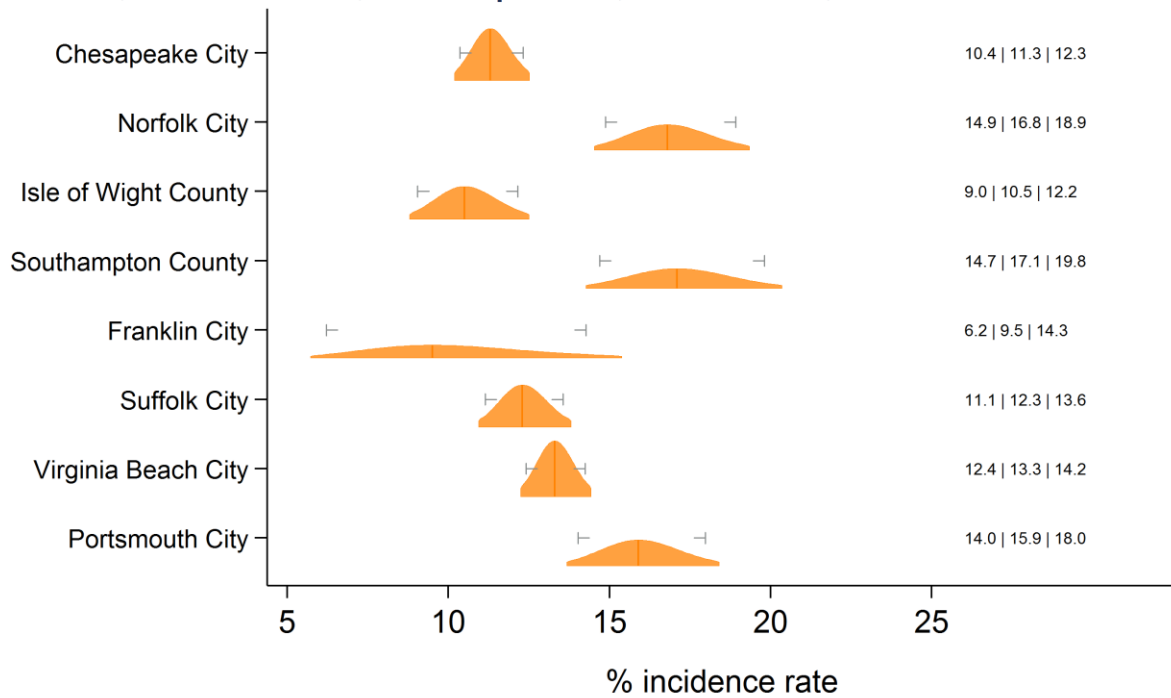
Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
 Gray markers: 90% confidence interval

Could not afford doctor in the past 12 months Chesterfield, Chickahominy, Henrico and Richmond HDs



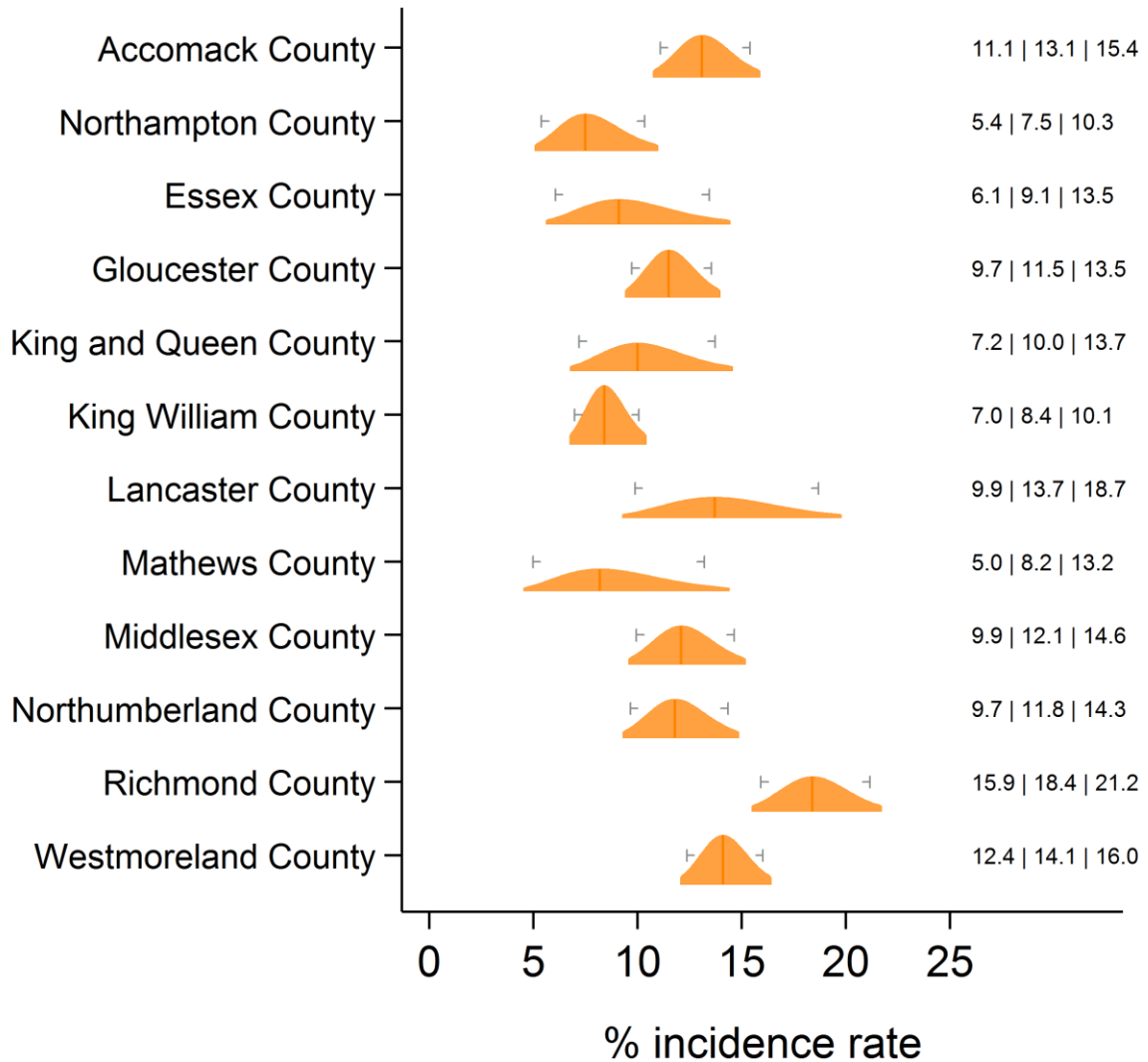
Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
 Gray markers: 90% confidence interval

Could not afford doctor in the past 12 months Norfolk, Portsmouth, Chesapeake, VA Beach, W. Tidewater HDs



Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
 Gray markers: 90% confidence interval

Could not afford doctor in the past 12 months Eastern Shore and Three Rivers HDs



Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
 Gray markers: 90% confidence interval

Section 5: Additional diagnostics

Direct estimate is inside the 95% SAE Wilson CI: 50 areas.

Direct estimate is outside the 95% SAE Wilson CI: 83 areas.

SAE estimate is inside the 95% direct Wilson CI: 127 areas.

SAE estimate is outside the 95% direct Wilson CI: 6 areas.

SAE Wilson 95% CI is fully inside the 95% direct Wilson CI: 122 areas.

SAE Wilson 95% CI partially overlaps with the 95% direct Wilson CI: 11 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: 121 areas.

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

Direct standard error is zero: 12 areas.

Proportion of SAE variance due to ACS sampling error: min = 0.06%; med = 3.95%; max = 15.47%.

Proportion of SAE variance to sampling error in regression coefficient estimates: min = 77.98%; med = 93.00%; max = 98.86%.

Proportion of SAE variance due to model selection: min = 0.21%; med = 2.20%; max = 21.96%.