

Indicator 15: Diagnosed with Pre-Diabetes or
Borderline Diabetes?



Indicator 15: Diagnosed with pre-diabetes or borderline diabetes?

Internal variable name: outc15_prediab_diag

Section 1: Definition

Definition: Have you ever been told by a doctor or other health professional that you have pre-diabetes or borderline diabetes?

Section 2: Predictive models

	Mixed, demos only	Logit, no area effects	Mixed with area covariates
	b/se	b/se	b/se
Outcome 15: Diagnosed with pre-diabetes or borderline diabetes?			
Non-Hispanic Black vs. Non-Hispanic White	0.2570 (0.1772)	0.2854 (0.1589)	0.2854 (0.1749)
Non-Hispanic Asian vs. Non-Hispanic White	0.1566 (0.2171)	0.2217 (0.3370)	0.2217 (0.2233)
Non-Hispanic Other vs. Non-Hispanic White	-0.1143 (0.2138)	-0.1303 (0.2579)	-0.1303 (0.2150)
Hispanic vs. Non-Hispanic White	-0.0746 (0.4402)	0.0130 (0.4184)	0.0130 (0.4535)
Female	-0.0873 (0.0901)	-0.1006 (0.1137)	-0.1006 (0.0907)
Age 18-24 vs. 65+	-1.5016*** (0.3193)	-1.4803*** (0.3149)	-1.4803*** (0.3155)
Age 25-34 vs. 65+	-1.3039*** (0.2526)	-1.2678*** (0.2748)	-1.2678*** (0.2546)
Age 35-44 vs. 65+	-0.8333*** (0.2074)	-0.8326*** (0.1845)	-0.8326*** (0.2062)
Age 45-54 vs. 65+	-0.3829* (0.1763)	-0.3749* (0.1472)	-0.3749* (0.1769)
Age 55-64 vs. 65+	-0.1466 (0.1257)	-0.1423 (0.1241)	-0.1423 (0.1247)
Melanoma Cancer Male Rate		0.0194*** (0.0054)	0.0194** (0.0059)
% moved past year, population 1+ years old		-0.0361*** (0.0104)	-0.0361** (0.0111)
Melanoma Cancer Female Rate		0.0019 (0.0096)	0.0019 (0.0088)
Testis Cancer Male Rate		0.0160	0.0160

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Non-stratified water domain index		(0.0165) -0.2101*	(0.0149) -0.2101*
{Testis Cancer Male Rate}		(0.0890) 0.0235	(0.0817) 0.0235
interacted with {Non-stratified water domain index}		(0.0209)	(0.0204)
{Melanoma Cancer Female Rate}		-0.0005*	-0.0005*
interacted with {Melanoma Cancer Male Rate}		(0.0003)	(0.0003)
Intercept	-1.8747*** (0.0871)	-1.7972*** (0.2485)	-1.7972*** (0.2310)
Area effect variance	0.0000** (0.0000)		0.0000*** (0.0000)

Number of alternative models used to estimate model error = 11.

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Section 3: Results

County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE 95% CI
Augusta County	51015	9.2%	(5.0%, 16.4%)	11.4%	(9.1%, 14.2%)
Bath County	51017	22.2%	(5.9%, 56.6%)	8.9%	(6.8%, 11.7%)
Caroline County	51033	6.5%	(2.4%, 27.3%)	6.2%	(4.7%, 8.1%)
Clarke County	51043	10.0%	(2.5%, 32.2%)	10.2%	(8.1%, 12.9%)
Culpeper County	51047	9.0%	(5.0%, 20.4%)	8.6%	(7.7%, 9.7%)
Fauquier County	51061	9.0%	(3.7%, 20.3%)	8.2%	(6.8%, 9.9%)
Frederick County	51069	7.5%	(4.8%, 14.9%)	7.6%	(6.8%, 8.5%)
Highland County	51091	0.0%	(0.0%, 89.1%)	9.9%	(4.0%, 22.8%)
King George County	51099	8.9%	(3.2%, 35.8%)	7.7%	(4.5%, 12.9%)
Madison County	51113	18.7%	(3.9%, 56.3%)	10.9%	(8.5%, 13.9%)
Orange County	51137	3.9%	(2.2%, 18.5%)	5.5%	(4.1%, 7.4%)
Page County	51139	8.0%	(3.2%, 43.2%)	9.5%	(6.9%, 13.0%)
Rappahannock County	51157	18.3%	(4.4%, 51.9%)	11.0%	(8.6%, 14.0%)
Rockbridge County	51163	3.4%	(1.2%, 23.4%)	7.2%	(5.6%, 9.1%)
Rockingham County	51165	5.7%	(2.3%, 13.5%)	9.3%	(7.7%, 11.0%)
Shenandoah County	51171	4.2%	(2.5%, 15.1%)	6.3%	(5.2%, 7.6%)
Spotsylvania County	51177	6.0%	(2.4%, 14.2%)	8.2%	(6.0%, 11.1%)
Stafford County	51179	9.0%	(4.5%, 17.0%)	6.8%	(5.9%, 7.8%)
Warren County	51187	6.9%	(3.4%, 25.7%)	7.2%	(5.0%, 10.1%)
Buena Vista City	51530	65.4%	(3.6%, 98.8%)	6.4%	(2.4%, 16.2%)
Fredericksburg City	51630	1.3%	(0.8%, 23.0%)	4.0%	(2.8%, 5.9%)
Harrisonburg City	51660	5.5%	(1.8%, 40.4%)	3.6%	(1.9%, 6.7%)
Lexington City	51678	0.0%	(0.0%, 99.4%)	0.0%	(.%, .%)
Staunton City	51790	8.1%	(2.1%, 49.4%)	6.1%	(2.5%, 13.8%)
Waynesboro City	51820	16.1%	(3.3%, 52.1%)	9.5%	(7.3%, 12.2%)
Winchester City	51840	2.0%	(1.1%, 27.8%)	4.7%	(3.0%, 7.4%)

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County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE 95% CI
Albemarle County	51003	3.9%	(1.5%, 9.8%)	5.9%	(4.9%, 7.1%)
Alleghany County	51005	4.6%	(0.8%, 23.4%)	11.3%	(8.5%, 14.8%)
Amherst County	51009	19.7%	(7.5%, 42.7%)	9.5%	(7.1%, 12.6%)
Appomattox County	51011	5.4%	(0.9%, 27.2%)	10.4%	(4.1%, 23.6%)
Arlington City	51013	3.3%	(2.4%, 8.6%)	5.9%	(4.8%, 7.3%)
Bedford County	51019	8.4%	(3.8%, 17.5%)	11.1%	(8.6%, 14.1%)
Botetourt County	51023	4.8%	(2.0%, 15.7%)	9.3%	(6.6%, 12.9%)
Campbell County	51031	12.6%	(4.7%, 29.3%)	9.4%	(7.6%, 11.7%)
Craig County	51045	0.0%	(0.0%, 73.6%)	10.0%	(5.6%, 17.2%)
Fairfax County	51059	8.1%	(5.3%, 12.3%)	7.6%	(6.7%, 8.7%)
Fluvanna County	51065	13.7%	(3.9%, 38.1%)	11.8%	(9.8%, 14.3%)
Greene County	51079	10.4%	(1.6%, 45.8%)	5.6%	(3.0%, 10.0%)
Loudoun County	51107	5.6%	(3.1%, 9.9%)	7.8%	(6.7%, 9.0%)
Louisa County	51109	7.5%	(1.7%, 27.3%)	12.6%	(10.1%, 15.7%)
Nelson County	51125	10.8%	(5.0%, 30.8%)	7.5%	(5.5%, 10.0%)
Prince William County	51153	6.4%	(2.5%, 15.6%)	6.7%	(5.9%, 7.7%)
Roanoke County	51161	8.3%	(4.8%, 14.0%)	7.5%	(6.0%, 9.5%)
Alexandria City	51510	7.3%	(2.9%, 17.2%)	6.8%	(5.5%, 8.4%)
Charlottesville City	51540	2.0%	(1.1%, 28.6%)	3.6%	(1.7%, 7.5%)
Covington City	51580	.%	(.%, .%)	2.2%	(0.0%, 67.5%)
Fairfax City	51600	5.0%	(2.5%, 15.5%)	8.3%	(6.6%, 10.4%)
Falls Church City	51610	2.3%	(0.8%, 57.8%)	12.1%	(8.5%, 16.9%)
Lynchburg City	51680	8.5%	(3.1%, 21.5%)	6.1%	(4.5%, 8.3%)
Manassas City	51683	12.3%	(4.5%, 45.2%)	7.3%	(5.9%, 9.1%)
Manassas Park City	51685	18.1%	(0.4%, 97.5%)	8.3%	(6.3%, 10.9%)
Salem City	51775	0.0%	(0.0%, 54.0%)	2.9%	(1.6%, 5.2%)

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County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE 95% CI
Bland County	51021	21.1%	(4.4%, 61.0%)	8.4%	(5.9%, 11.8%)
Buchanan County	51027	7.8%	(4.4%, 21.8%)	10.6%	(7.8%, 14.2%)
Carroll County	51035	6.6%	(2.3%, 22.9%)	8.9%	(7.0%, 11.2%)
Dickenson County	51051	16.5%	(6.7%, 35.0%)	10.2%	(7.5%, 13.8%)
Floyd County	51063	10.1%	(3.3%, 27.2%)	8.8%	(6.9%, 11.1%)
Franklin County	51067	3.3%	(1.9%, 16.1%)	5.6%	(4.1%, 7.6%)
Giles County	51071	3.9%	(2.3%, 28.8%)	5.7%	(4.2%, 7.7%)
Grayson County	51077	2.6%	(1.2%, 26.2%)	5.9%	(2.8%, 12.1%)
Henry County	51089	4.1%	(1.4%, 11.4%)	8.9%	(6.7%, 11.8%)
Lee County	51105	4.5%	(2.5%, 22.4%)	9.1%	(7.0%, 11.8%)
Montgomery County	51121	8.1%	(4.2%, 15.0%)	5.3%	(3.5%, 7.8%)
Patrick County	51141	6.1%	(1.4%, 22.8%)	9.9%	(7.4%, 13.0%)
Pittsylvania County	51143	7.6%	(4.1%, 13.6%)	8.7%	(7.2%, 10.4%)
Pulaski County	51155	18.7%	(7.9%, 38.4%)	8.0%	(6.4%, 10.0%)
Russell County	51167	12.6%	(3.5%, 36.4%)	8.7%	(7.0%, 10.6%)
Scott County	51169	6.5%	(3.7%, 18.1%)	6.9%	(5.3%, 9.1%)
Smyth County	51173	8.9%	(2.9%, 24.1%)	8.4%	(6.7%, 10.3%)
Tazewell County	51185	23.6%	(12.4%, 40.1%)	10.6%	(8.4%, 13.2%)
Washington County	51191	1.9%	(1.1%, 11.1%)	7.0%	(4.3%, 11.3%)
Wise County	51195	15.0%	(6.7%, 30.3%)	9.9%	(8.0%, 12.3%)
Wythe County	51197	10.0%	(5.4%, 23.2%)	10.2%	(8.5%, 12.2%)
Bristol City	51520	8.1%	(2.2%, 53.7%)	7.9%	(5.9%, 10.5%)
Danville City	51590	1.0%	(0.6%, 26.5%)	6.3%	(4.3%, 9.0%)
Galax City	51640	17.9%	(2.3%, 79.0%)	9.8%	(4.8%, 19.2%)
Martinsville City	51690	0.0%	(0.0%, 53.9%)	7.1%	(4.7%, 10.6%)
Norton City	51720	0.0%	(0.0%, 69.6%)	7.1%	(4.6%, 10.8%)
Radford City	51750	0.0%	(-0.0%, 62.2%)	2.5%	(1.2%, 5.2%)
Roanoke City	51770	8.9%	(3.4%, 21.4%)	7.4%	(6.2%, 8.8%)

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County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE 95% CI
Amelia County	51007	6.4%	(2.8%, 32.3%)	13.6%	(10.7%, 17.1%)
Brunswick County	51025	15.1%	(5.6%, 34.7%)	10.4%	(8.7%, 12.4%)
Buckingham County	51029	14.0%	(5.3%, 32.2%)	9.5%	(6.3%, 14.0%)
Charles City County	51036	4.4%	(1.7%, 47.2%)	10.6%	(7.3%, 15.2%)
Charlotte County	51037	30.7%	(6.4%, 74.2%)	10.6%	(8.0%, 14.0%)
Chesterfield County	51041	8.3%	(5.0%, 13.3%)	10.6%	(8.8%, 12.6%)
Cumberland County	51049	4.3%	(1.7%, 44.7%)	11.8%	(8.3%, 16.6%)
Dinwiddie County	51053	13.2%	(4.8%, 31.6%)	9.2%	(7.3%, 11.6%)
Goochland County	51075	8.9%	(4.3%, 30.8%)	7.5%	(5.7%, 10.0%)
Greensville County	51081	0.0%	(0.0%, 43.9%)	9.4%	(7.3%, 11.8%)
Halifax County	51083	5.5%	(3.2%, 18.3%)	9.4%	(7.3%, 12.0%)
Hanover County	51085	6.8%	(3.6%, 12.6%)	8.5%	(6.9%, 10.5%)
Henrico County	51087	5.9%	(3.5%, 9.7%)	7.0%	(6.0%, 8.2%)
Lunenburg County	51111	1.9%	(1.0%, 37.9%)	9.8%	(6.9%, 13.6%)
Mecklenburg County	51117	6.8%	(2.6%, 16.5%)	10.0%	(8.2%, 12.1%)
New Kent County	51127	24.0%	(6.9%, 57.3%)	11.4%	(9.1%, 14.1%)
Nottoway County	51135	2.9%	(1.7%, 28.6%)	6.7%	(4.9%, 9.2%)
Powhatan County	51145	14.4%	(3.5%, 44.3%)	10.0%	(8.6%, 11.6%)
Prince Edward County	51147	18.5%	(7.7%, 38.4%)	6.3%	(4.5%, 8.8%)
Prince George County	51149	6.8%	(1.4%, 27.1%)	8.7%	(6.8%, 11.1%)
Surry County	51181	28.7%	(6.3%, 70.7%)	11.8%	(9.0%, 15.3%)
Sussex County	51183	10.2%	(2.1%, 37.8%)	7.6%	(4.6%, 12.2%)
Colonial Heights City	51570	0.0%	(0.0%, 47.1%)	7.0%	(3.1%, 15.2%)
Emporia City	51595	0.0%	(0.0%, 90.3%)	7.8%	(5.6%, 10.8%)
Hopewell City	51670	3.8%	(2.0%, 34.7%)	14.7%	(11.2%, 19.1%)
Petersburg City	51730	6.1%	(2.9%, 20.5%)	9.7%	(5.0%, 18.1%)
Richmond City	51760	7.7%	(4.6%, 12.6%)	6.3%	(5.0%, 8.0%)

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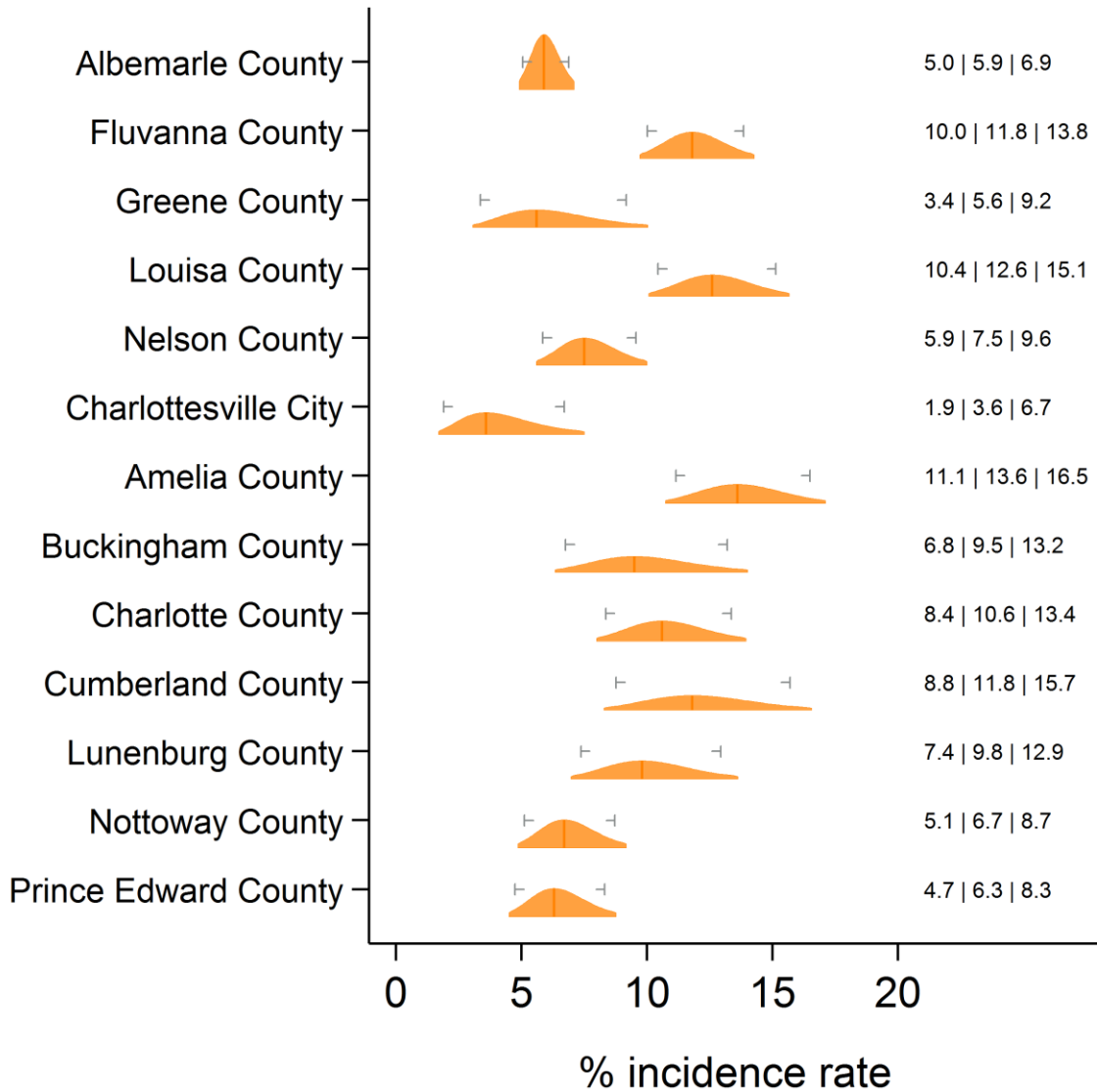


County name	County FIPS	Direct estimate	Direct 95% CI	SAE composite	SAE 95% CI
Accomack County	51001	4.2%	(2.9%, 21.8%)	12.1%	(7.3%, 19.6%)
Essex County	51057	31.4%	(6.5%, 75.0%)	25.2%	(17.0%, 35.6%)
Gloucester County	51073	4.4%	(2.6%, 18.4%)	10.2%	(8.5%, 12.3%)
Isle of Wight County	51093	6.3%	(2.1%, 17.4%)	10.3%	(8.1%, 12.9%)
James City County	51095	22.0%	(11.7%, 37.7%)	12.7%	(9.6%, 16.6%)
King and Queen County	51097	29.3%	(5.2%, 76.0%)	28.1%	(18.9%, 39.6%)
King William County	51101	0.0%	(-0.0%, 26.3%)	9.9%	(6.2%, 15.6%)
Lancaster County	51103	9.6%	(1.9%, 36.3%)	27.1%	(14.9%, 44.1%)
Mathews County	51115	23.3%	(9.4%, 47.1%)	10.2%	(5.2%, 19.1%)
Middlesex County	51119	9.4%	(1.3%, 44.7%)	3.5%	(0.7%, 15.9%)
Northampton County	51131	13.8%	(4.2%, 37.0%)	8.7%	(6.3%, 11.8%)
Northumberland County	51133	18.0%	(4.5%, 50.6%)	28.7%	(16.1%, 45.8%)
Richmond County	51159	10.2%	(3.8%, 24.4%)	8.2%	(6.9%, 9.7%)
Southampton County	51175	1.5%	(0.9%, 35.1%)	12.6%	(9.5%, 16.4%)
Westmoreland County	51193	41.8%	(11.7%, 79.7%)	8.1%	(3.3%, 18.6%)
York County	51199	7.2%	(3.0%, 16.4%)	8.5%	(7.2%, 10.0%)
Chesapeake City	51550	9.5%	(5.9%, 15.1%)	8.6%	(7.3%, 10.0%)
Franklin City	51620	26.6%	(11.2%, 51.1%)	21.3%	(13.5%, 31.9%)
Hampton City	51650	7.1%	(3.8%, 13.1%)	9.5%	(7.8%, 11.5%)
Newport News City	51700	5.1%	(2.0%, 12.3%)	6.4%	(4.8%, 8.5%)
Norfolk City	51710	3.6%	(1.8%, 7.1%)	6.5%	(5.1%, 8.1%)
Poquoson City	51735	0.0%	(-0.0%, 76.5%)	3.8%	(1.3%, 11.2%)
Portsmouth City	51740	9.5%	(5.4%, 16.2%)	9.2%	(7.7%, 11.0%)
Suffolk City	51800	16.5%	(8.7%, 28.9%)	10.9%	(9.4%, 12.7%)
Virginia Beach City	51810	10.1%	(6.2%, 16.1%)	8.3%	(6.7%, 10.2%)
Williamsburg City	51830	0.0%	(0.0%, 55.7%)	1.2%	(0.3%, 5.6%)



Section 4: Graphical representation

Lifetime pre-diabetes Thomas Jefferson and Piedmont HDs

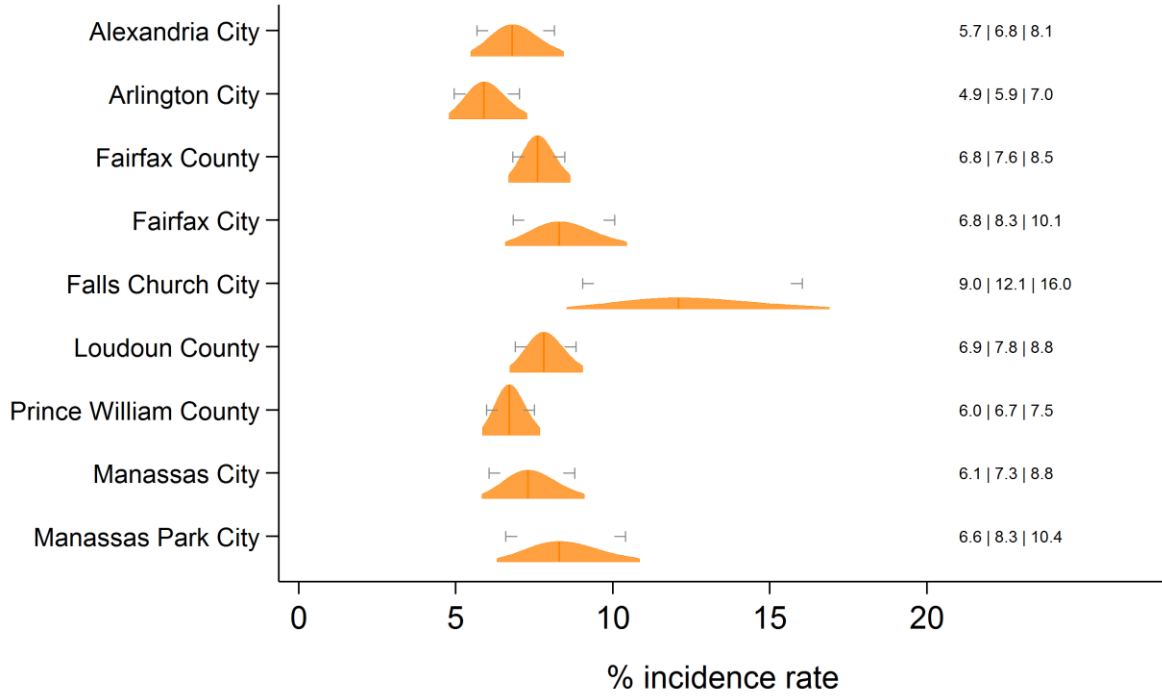


Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
Gray markers: 90% confidence interval

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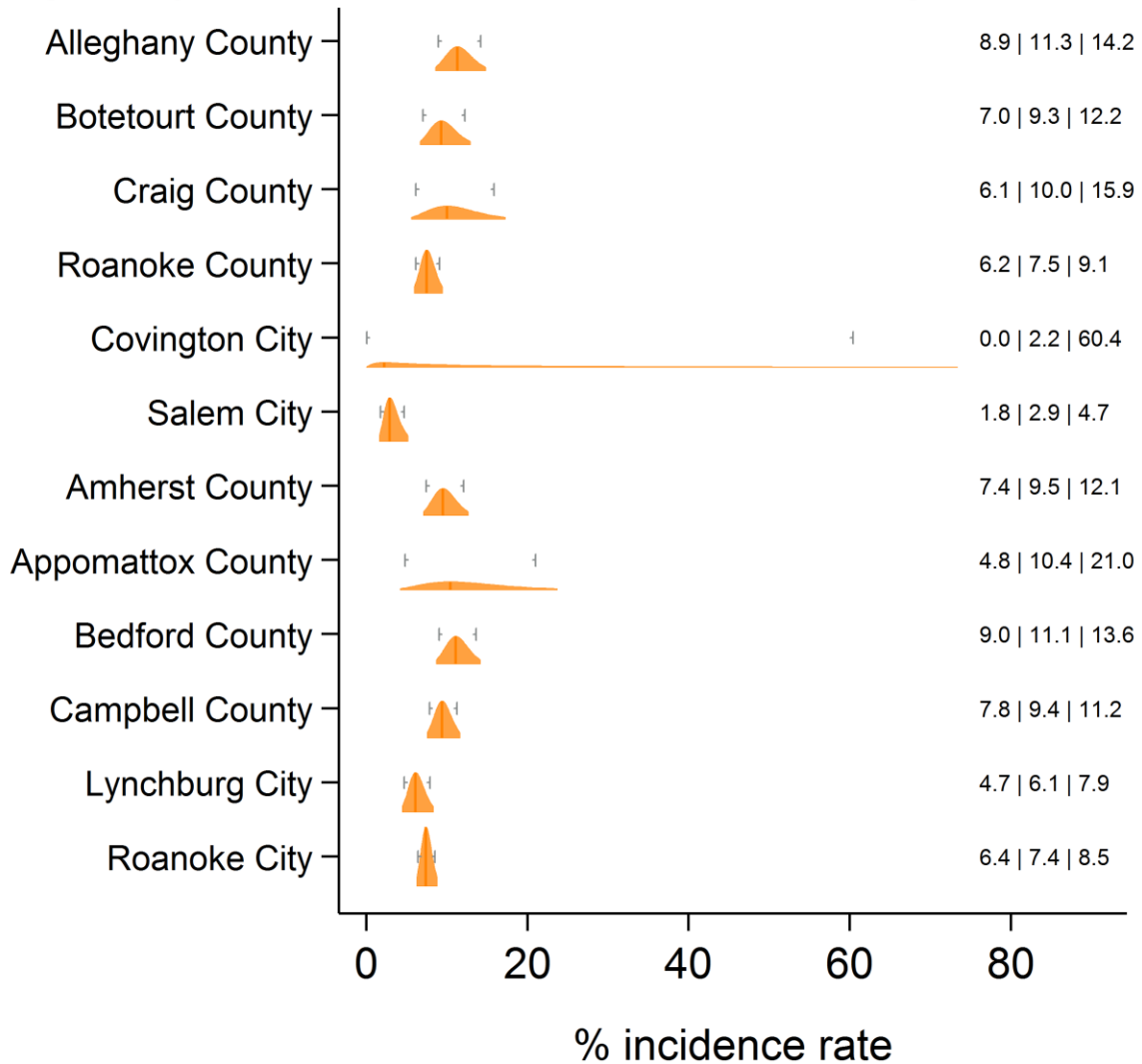
Lifetime pre-diabetes Alexandria, Fairfax, Arlington, Loudon, Prince William HDs



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



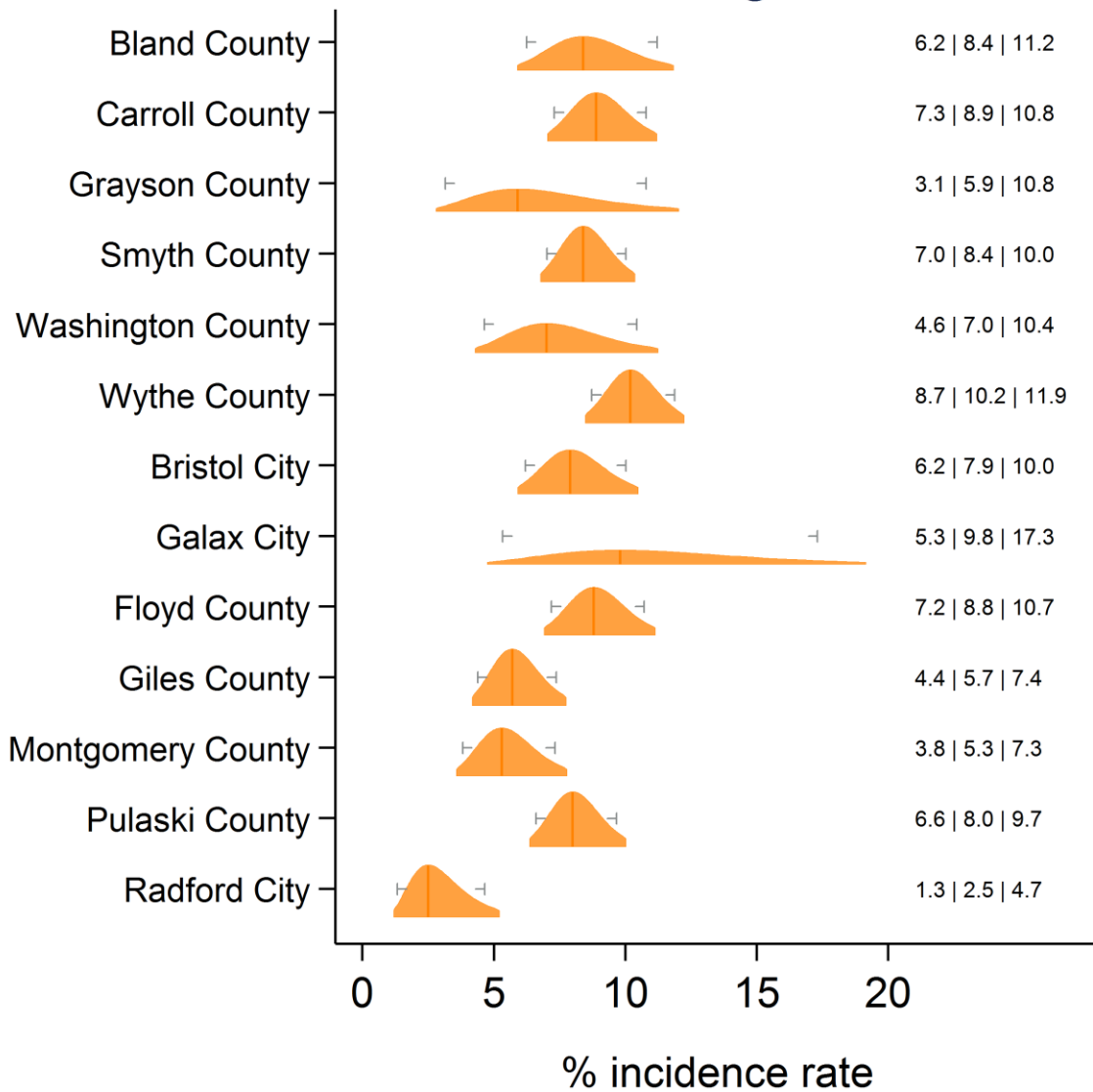
Lifetime pre-diabetes Alleghany, Roanoke and Central Virginia HDs



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



Lifetime pre-diabetes New River and Mount Rogers HDs

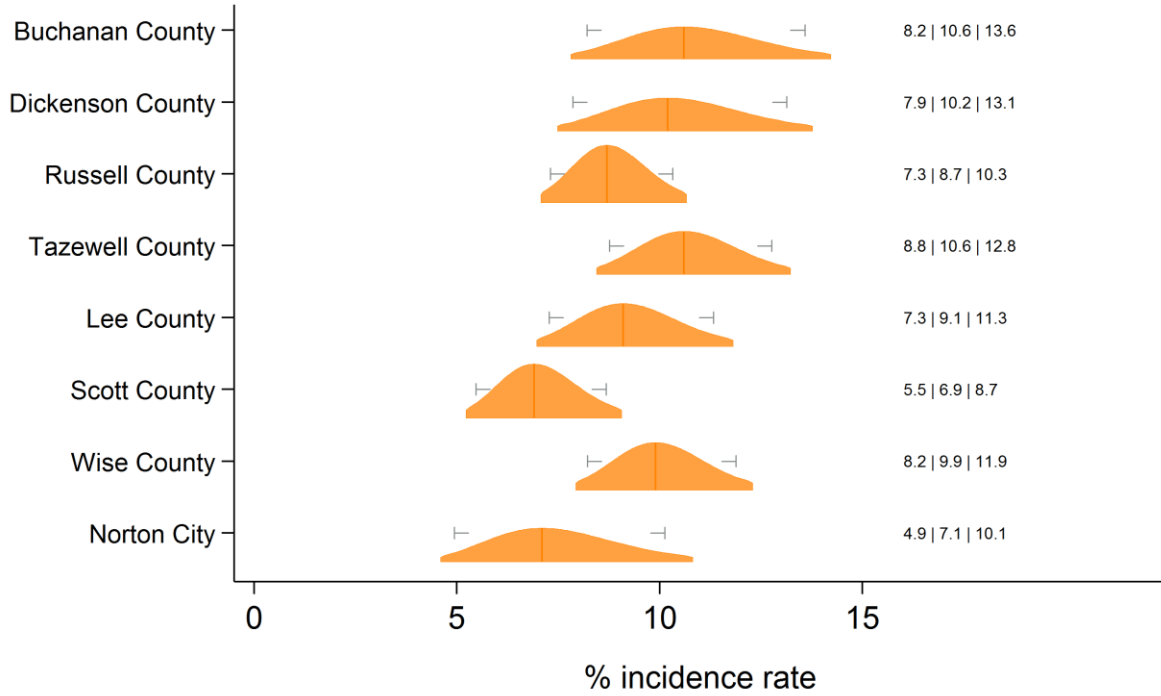


Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
Gray markers: 90% confidence interval

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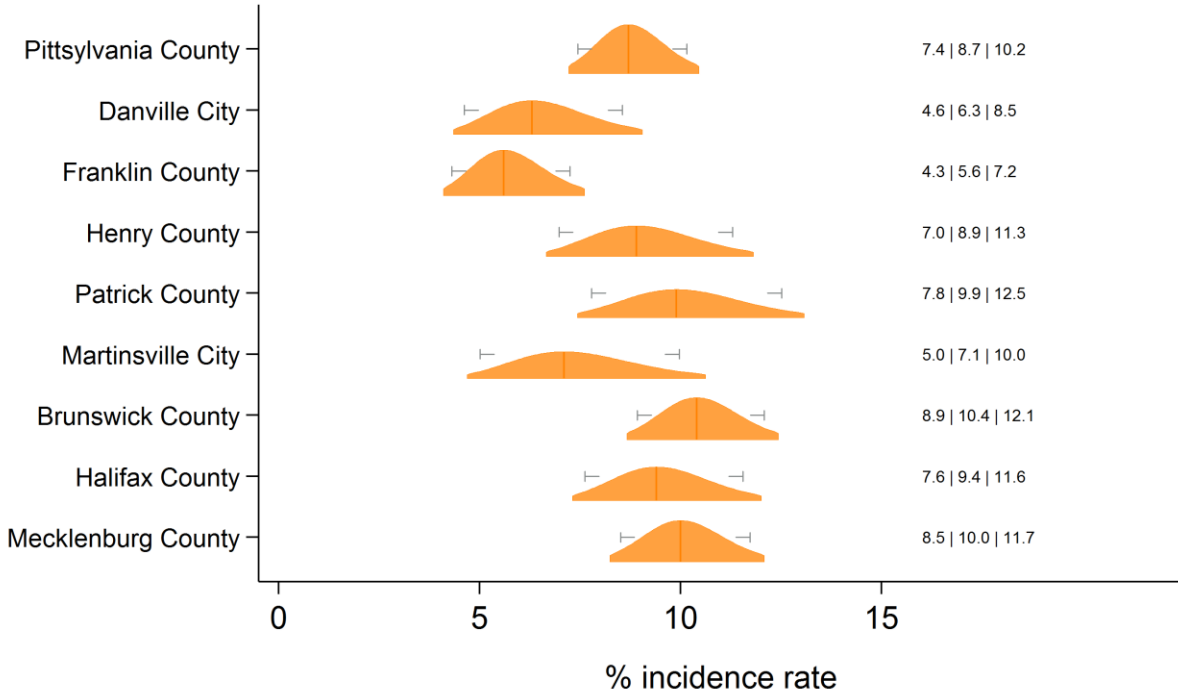
Lifetime pre-diabetes Cumberland Plateau and Lenowisco HDs



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



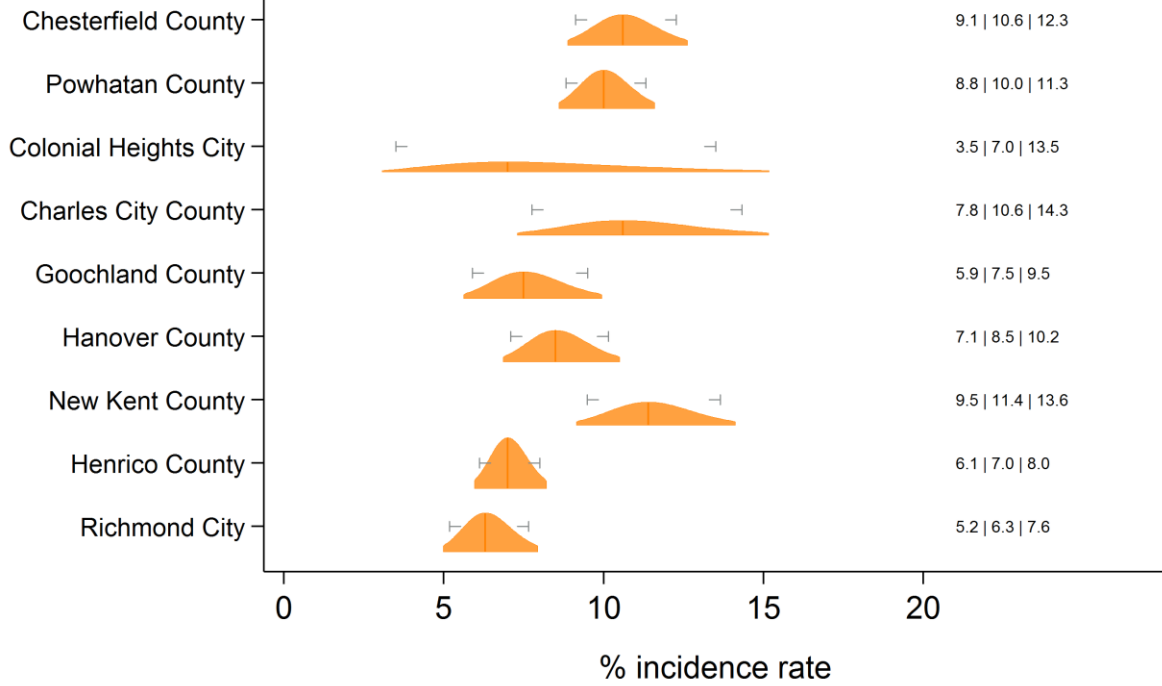
Lifetime pre-diabetes Pittsylvania/Danville, Southside and West Piedmont HDs



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



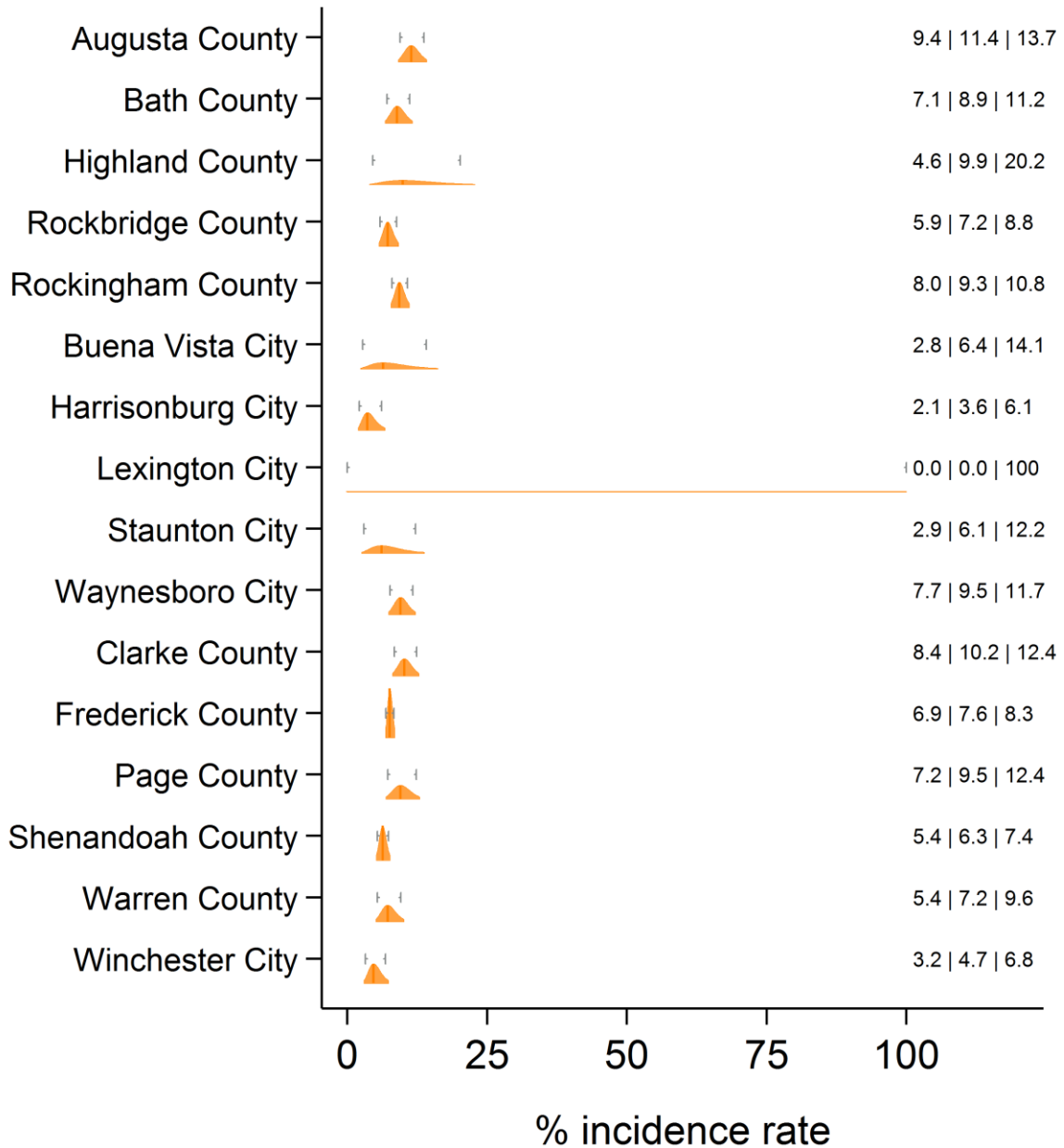
Lifetime pre-diabetes Chesterfield, Chickahominy, Henrico and Richmond HDs



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



Lifetime pre-diabetes Central Shenandoah and Lord Fairfax HDs

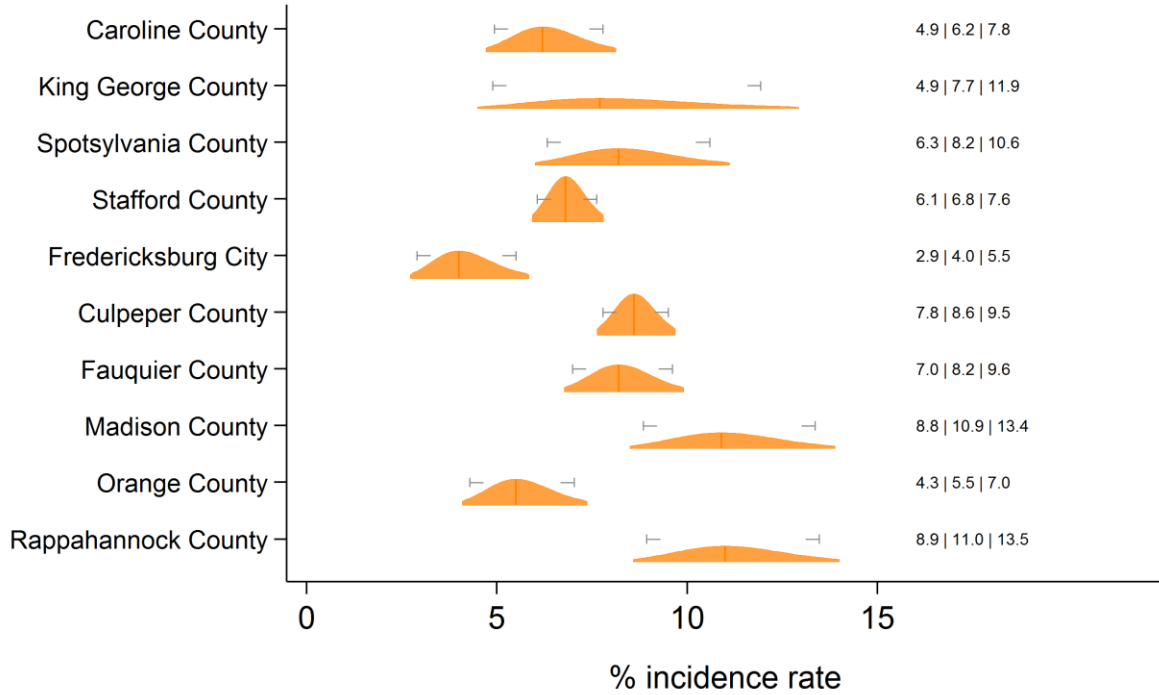


Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
Gray markers: 90% confidence interval

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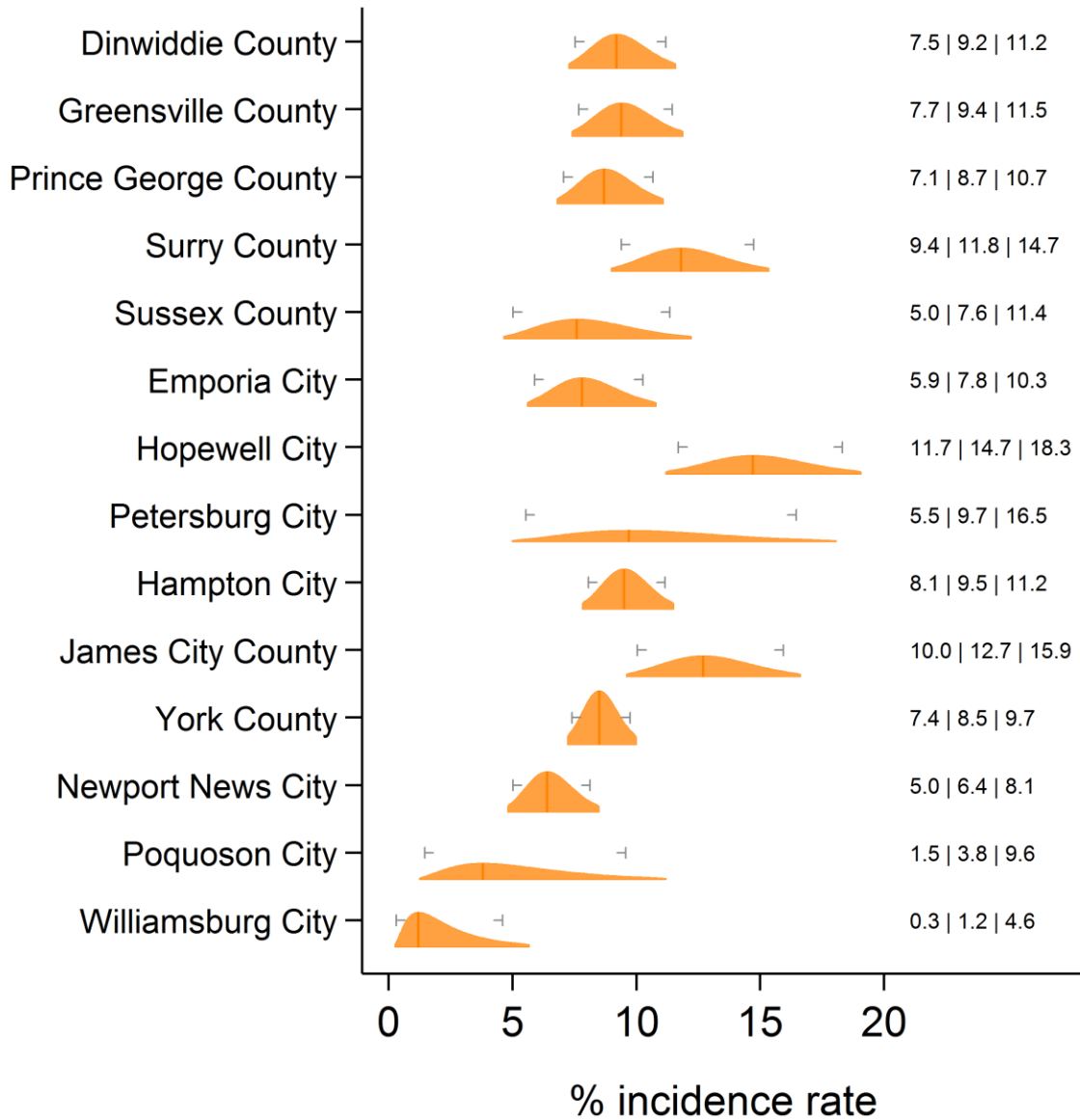
Lifetime pre-diabetes Rappahannock/Rapidan and Rappahannock HDs



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



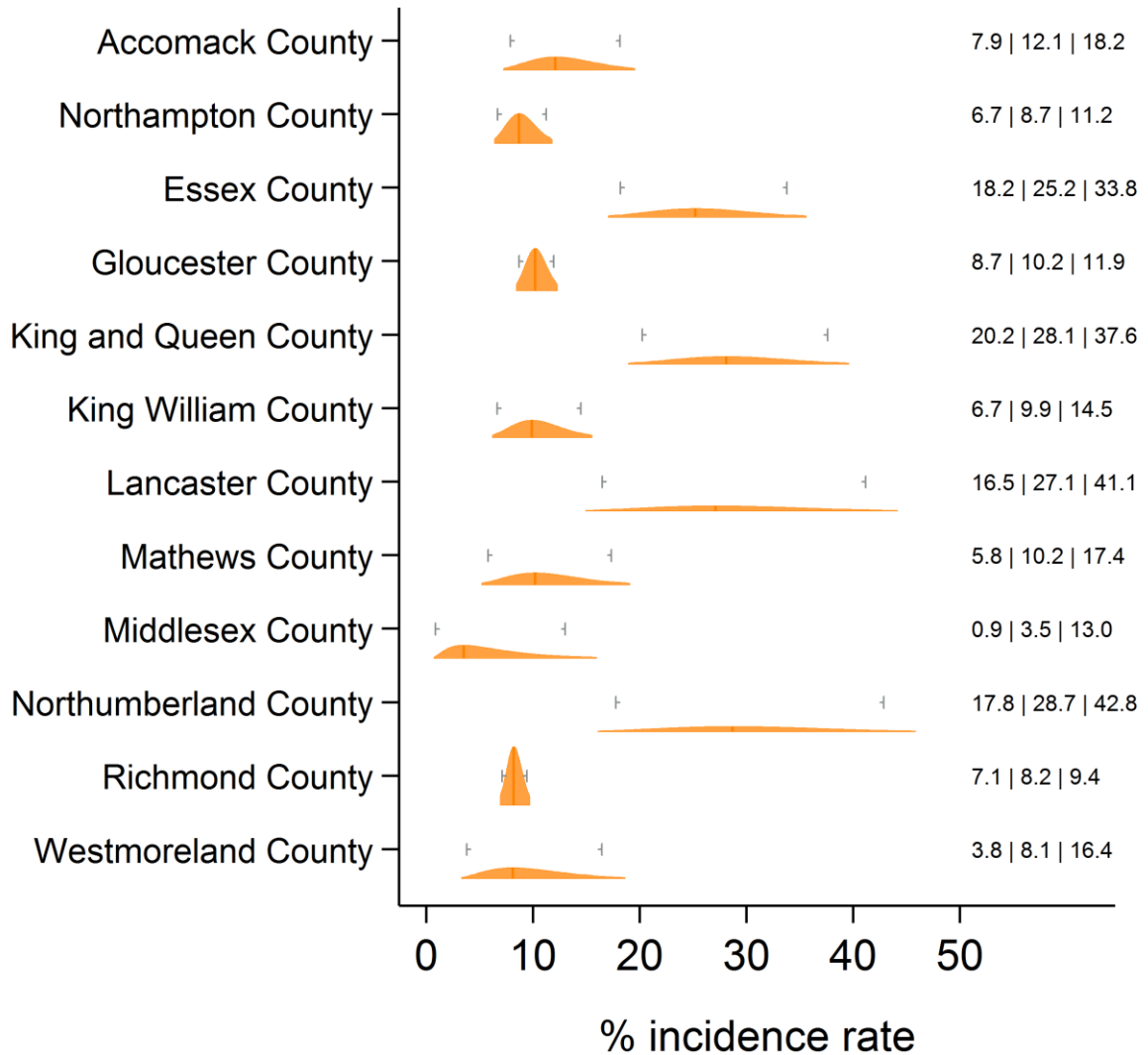
Lifetime pre-diabetes Crater, Peninsula and Hampton HDs



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



Lifetime pre-diabetes Eastern Shore and Three Rivers HDs

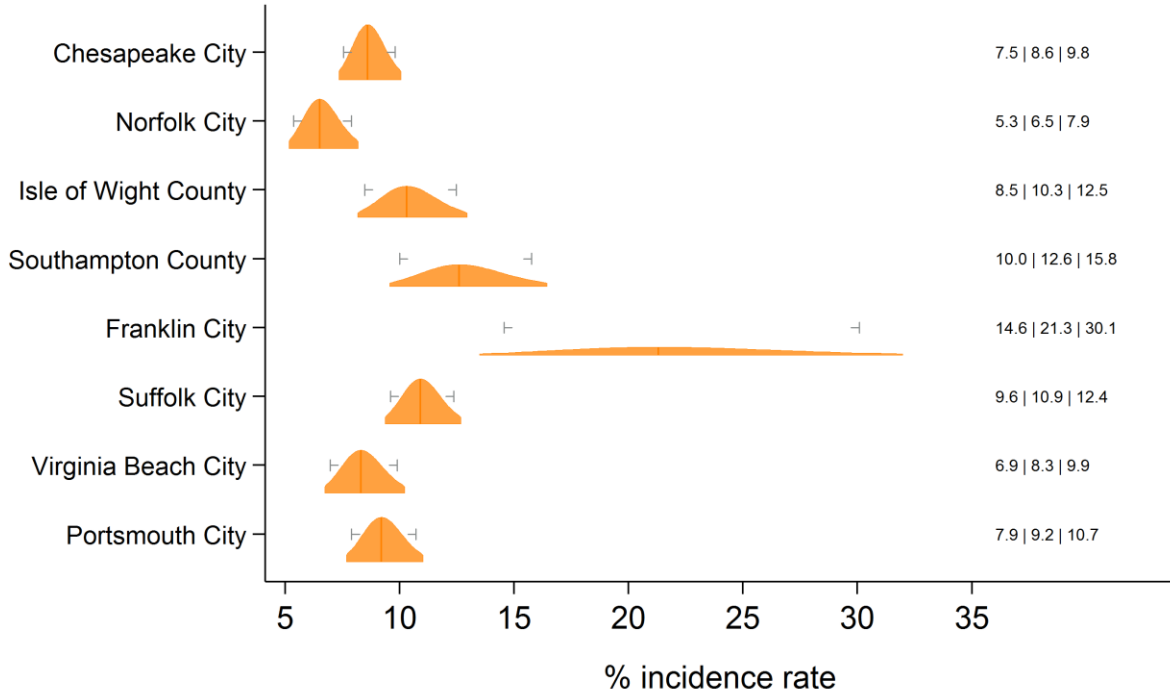


Text at right: 1-sided 95% LCB | Point Estimate | 1-sided 95% UCB
Gray markers: 90% confidence interval

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Lifetime pre-diabetes
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



Section 5: 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: 130 areas.

SAE estimate is outside the 95% direct Wilson CI: 3 areas.

SAE Wilson 95% CI is fully inside the 95% direct Wilson CI: 117 areas.

SAE Wilson 95% CI partially overlaps with the 95% direct Wilson CI: 16 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: 115 areas.

SAE standard error is greater than the (nonzero) direct standard error: 4 areas.

Direct standard error is zero: 14 areas.

Proportion of SAE variance due to ACS sampling error: min = 0.00%; med = 1.07%; max = 9.54%.

Proportion of SAE variance to sampling error in regression coefficient estimates: min = 0.00%; med = 92.68%; max = 98.91%.

Proportion of SAE variance due to model selection: min = 0.45%; med = 5.63%; max = 100.00%.